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ABSTRACT

This module is the first of five in the Commercial Art series. The curriculum guide is designed for competency-based teaching and testing. Within this module on fundamentals of commercial art are six instructional units. A cross-reference table reveals how the instructional components of the module relate to Missouri competencies. Each unit includes some or all of the following components: unit and specific objectives; table of contents; reference list; notes to the instructor; information sheets in outline form; transparency masters; handouts; assignment sheets; job sheets; and unit test with answer key. Unit topics are as follows: basic tools, paper and related supplies, type, proofreading and camera equipment, photos in a layout, and color separations and printer specifications. (YLB)

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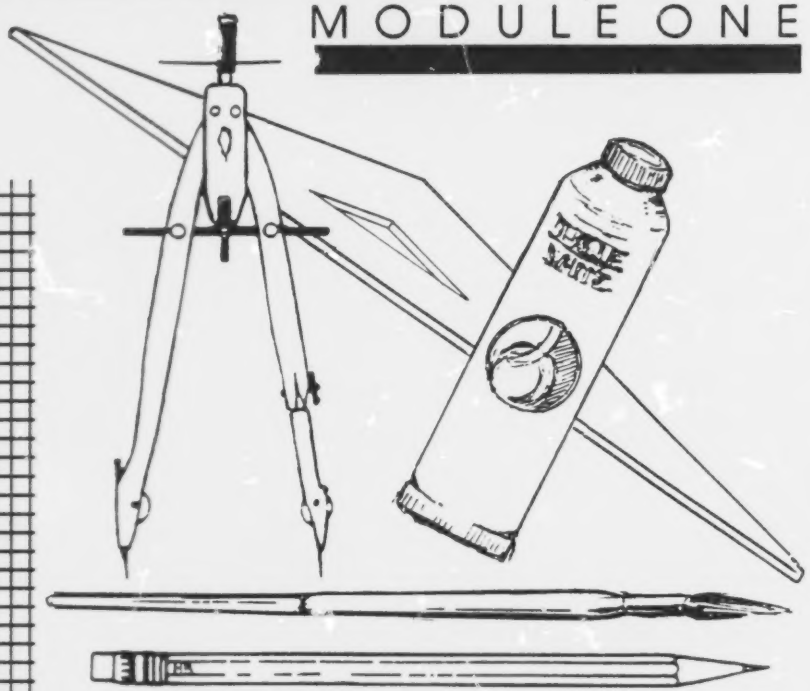
Instructor Guide

Fundamentals of Commercial Art

MODULE ONE



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Modules in this IML Commercial Art series

1: *Fundamentals of Commercial Art* by Diane Davis and Christine Tadrick

2: *Layout and Design* by Tom Benke, Jim Scott and LaVerne Wollerman

3: *Illustration* by Tom Benke, Richard Evans and Bob Morris

4: *Computer Graphics* (tests to accompany MAVCC's *Desktop Publishing;* IML terms glossary)

5: *Employment Preparation* by LaVerne Wollerman

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COMMERCIAL ART

Module 1: Fundamentals of Commercial Art

by

Diane Davis and Christine Tadrick

Instructional Materials Laboratory
8 London Hall
University of Missouri-Columbia
Columbia, MO 65211

1992

Instructor's Guide
Catalog No. 70-8201-I

FOREWORD

We are indebted to the teachers and administrators who provide their time, efforts and professionalism to develop curriculum for trade, technical and industrial education programs. This Commercial Art guide is no exception. Committee members worked hard over several years' time in advisory, writing, technical consultation and field-test capacities.

To take full advantage of excellent materials already in existence, Module 4: Computer Graphics is keyed to the Desktop Publishing guide developed in 1990 by the Mid-America Vocational Curriculum Consortium. (Copies of it are available from IML or from MAVCC directly at 800/654-3988.) Module 4: Computer Graphics includes tests that are easily used with scanable answer sheets and an alphabetized glossary containing terms and definitions from Modules 1-3 and 5.

This Commercial Art guide is designed to be totally integrated with the Vocational Instructional Management System. It is hoped that all guides produced under our supervision will help classroom teachers manage instruction. A curriculum guide is more than a resource--it is an integral part of the management system. Rather than impeding instruction, it should guide and facilitate instruction.

This guide's format is set up for competency-based teaching and testing. Unit tests evaluate specific competencies and can be used with the Vocational Administrative Management System (VAMS). Information sheets, transparency masters, assignment sheets, job sheets and test items are keyed to specific competencies. A cross-reference table has been included with each module to identify quickly the parts of the curriculum that relate to specific competencies.

Although this guide may be a new format for some teachers, we are confident that, when used as designed, time spent by teachers and students will become more productive. Any future curriculum modifications will begin with this guide. The commercial art field is undergoing constant and considerable change. We will periodically evaluate the need to update this guide on a module-by-module basis. Your suggestions regarding areas for improvement are both encouraged and appreciated.

Carrie Haner, supervisor
Industrial Education
Department of Elementary and Secondary Education

Charles "Chuck" Waibel, director
Industrial Education
Department of Elementary and Secondary Education

ACKNOWLEDGMENTS

This Commercial Art guide represents a continuing commitment to Missouri's Vocational Instructional Management System (VIMS). The guide has been keyed to the Commercial Art competency profile developed by industry and education professionals in the state.

When searching for current materials to adopt or utilize in the guide's development, we found the Desktop Publishing guide from the Mid-America Vocational Curriculum Consortium (MAVCC), of which Missouri is a member. This MAVCC guide, therefore, has been referenced to for the bulk of Module 4: Computer Graphics. The IML-developed portion includes tests that are easily used with scanable answer sheets and an alphabetized glossary containing terms and definitions from Modules 1-3 and 5. A debt of thanks is owed to the entire MAVCC organization for the research and development of the Desktop Publishing guide.

These industry representatives and educators contributed to the guide as writers and members of the advisory committee.

Tom Benke, Nichols Career Center, Jefferson City
Richard Evans, South County Technical School, St. Louis
Robert Morris, Penn Valley Community College, Kansas City
Jim Scott, Graff Career Center, Springfield
Christine Tadrick, Parkway North High School, Creve Coeur
LaVerne Wollerman, Joe Herndon Area Vocational Technical School, Raytown
Charles Waibel, Judith Moore and Carrie Haner, Division of Vocational & Adult Education, Department of Elementary and Secondary Education, Jefferson City

Educators who field-tested the guide in the classroom include the following.

Jim Brock, Joe Herndon Area Vocational Technical School, Raytown
David Eichholz, North County Technical School, Florissant
James Gormley, St. Louis Community College-Florissant Valley
Michaela Hecht, Westport Sr. High School, Kansas City
Neil Nulton, Gibson Vo-Tech, Reeds Spring
Tom Benke, Nichols Career Center, Jefferson City
Richard Evans, South County Technical School, St. Louis
Robert Morris, Penn Valley Community College, Kansas City
Jim Scott, Graff Career Center, Springfield

Support and contributions of IML staff members were instrumental to this module's development.

Harley Schlichting, director
Amon Herd, associate director
Phyllis Miller and Dan Stapleton, assistant directors
Diane Davis, editor
Sharon Dyer, graphic designer
Lori Holliday, word processor III
Wei Li, graduate student assistant

COMPETENCIES ADDRESSED IN THIS GUIDE AND THEIR LOCATION (BY MODULE)

NOTES: M1 = Module 1, M2 = Module 2, M3 = Module 3, etc.
= tasks deleted in 1990
** = competencies addressed in the Missouri VICA Curriculum Guide

M1	M2	M3	M4	M5	Competencies
A. Safe Use of Art Tools and Materials/Equipment					
X					1. Demonstrate proper uses of T-square
X					2. Demonstrate proper uses of triangles
X					3. Demonstrate proper uses of drafting knives
X					4. Demonstrate proper uses of scissors
X	X				5. Demonstrate proper uses of tech pens
X	X				6. Demonstrate proper uses of sharpeners
X	X				7. Demonstrate proper uses of pencils
X	X				8. Demonstrate proper uses of erasers
X					9. Demonstrate proper uses of tapes
X	X				10. Demonstrate proper uses of paper
X					11. Demonstrate proper uses of fixatives
					12. #
X	X				13. Demonstrate proper uses of markers
X	X				14. Demonstrate proper uses of ink
X	X				15. Demonstrate proper uses of paint
X					16. Demonstrate proper uses of individually selected materials
X					17. Demonstrate proper use of individually selected equipment
X					18. Demonstrate proper use of individually selected camera
B. #					
C. #					
D. Fundamentals of Design					
	X				1. Design logo
	X				2. Design business card
	X				3. Design letterhead
					4. #
	X				5. Produce line drawings
					6. #
E. Advanced Design					
	X				1. Develop freelance production art for business/industry
	X				2. Produce art for in-school production
	X				3. Produce display/bulletin boards
	X			X	4. Produce commercial art/advertising design self-promotion
F. Specialty Design					
	X				1. Prepare rough layouts
	X				2. Prepare full-color comprehensive layouts
	X				3. Prepare book cover designs
	X				4. Prepare magazine advertisements
	X		X		5. Prepare multi-page programs
	X		X		6. Prepare flyers
	X				7. Prepare posters
	X				8. Prepare repeat design (i.e. wallpaper)
	X				9. Prepare T-shirt designs
	X				10. Prepare black-and-white illustrations
	X				11. Prepare point-of-purchase/billboard signs
G. Production/Camera-Ready Art					
	X				1. Identify planning methods
X					2. Produce keyline art
X					3. Produce overlay art
X					4. Produce mechanical color separation
X					5. Produce pasteup with type/photos
X					6. Produce screen tint art
X					7. Produce printer specs
X					8. Crop and scale photos
H. Fundamentals of Perspective					
		X			1. Identify/illustrate one-point perspective
		X			2. Identify/illustrate two-point perspective
		X			3. Identify/illustrate multi-point perspective
I. Fundamentals of Illustration					
		X			1. Produce story illustration creation
		X			2. Produce enlarged product illustration

M1	M2	M3	M4	M5	Competencies
		X			3. Produce technical cross-section illustration
J. #					
K. Cartooning					
		X			1. Create a character
		X			2. Produce one-frame/strip cartoon
					3. #
L. Working with Printer/Client					
				X	1. Demonstrate proper use of vocabulary
X					2. Illustrate key symbols/signs
	X				3. Identify production planning and related costs
M. #					
N. Jobs in Graphic Production Art					
				X	1. Identify methods of finding a job
				X	2. Identify methods of finding a school
				X	3. Identify methods of keeping a job
				X	4. Identify methods of growing/improving
O. Preparation of Personal Portfolio					
				X	1. Identify and select materials
				X	2. Prepare presentation
				X	3. Prepare for job interview
				X	4. Prepare resume
P. Leadership Competencies**					
					1. Demonstrate an understanding of VICA, its structure and activities
					2. Demonstrate an understanding of one's personal values
					3. Perform tasks related to effective personal management skills
					4. Demonstrate interpersonal skills
					5. Demonstrate etiquette and courtesy
					6. Demonstrate effectiveness in oral and written communication
					7. Develop and maintain code of professional ethics
					8. Maintain good professional appearance
					9. Perform basic tasks related to securing and terminating employment

M1	M2	M3	M4	M5	Competencies
					10. Perform basic parliamentary procedures in group meeting
Q. Pen Work					
		X			1. Demonstrate handlettering
		X			2. Produce calligraphy
		X			3. Produce ruled forms
		X			4. Produce spot illustration
R. Fundamentals of Type					
X			X		1. Identify type styles and structure
X			X		2. Identify methods of copyfitting, mark-up and proofreading
S. Computer Graphics					
			X		1. Identify hardware and basic functions/operations
			X		2. Identify software programs and uses

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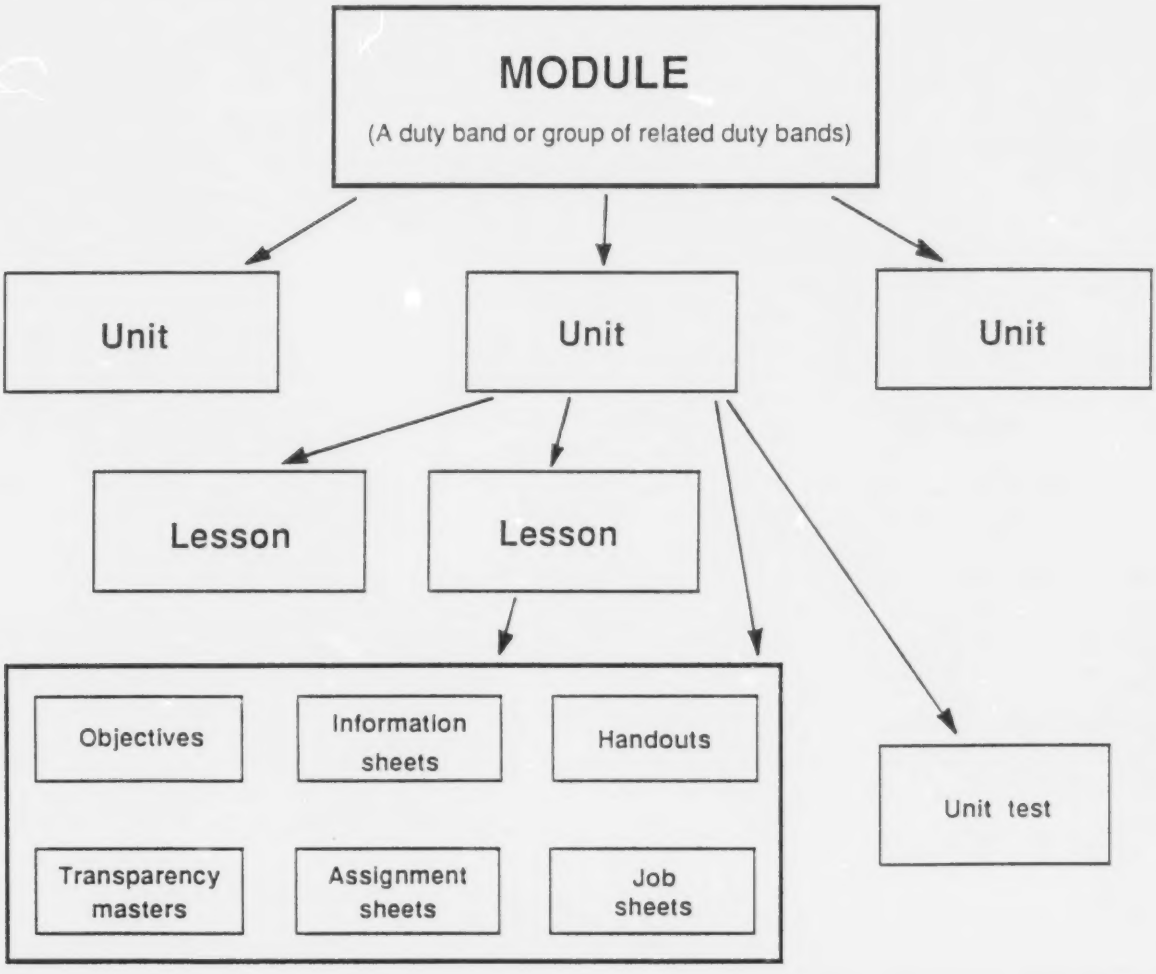
HOW TO USE THIS PUBLICATION

GUIDE COMPONENTS

Units of instruction

This Commercial Art guide contains five modules of instruction. Within the modules are instructional units including some or all of the following components: performance objectives, information sheets, transparency masters, handouts, assignment sheets, job sheets and a unit test. Special instructions on audiovisuals, supplies, etc. are included in the Notes to the Instructor section near the beginning of each unit.



Competency profile

On the Missouri competency profile, tasks are divided into general subject areas, or duty bands, which are identified by a capital letter. Under each duty band are related tasks (competencies), which are identified by an Arabic numeral. To evaluate the student on performance of the competencies, a 3-2-1-N grading system is used, where:

3 = **Mastery** - can work independently with no supervision
2 = **Requires supervision** - can perform job completely with limited supervision
1 = **Not mastered** - requires instruction and close supervision
N = **No exposure** - no experience or knowledge in this area

Cross-reference table (color-coded white)

Once the numbering system is understood, this table quickly reveals how the instructional components of the module relate to Missouri competencies. On the competency profile, tasks are divided into general subject areas, or duty bands, which are identified by a capital letter. Under each duty band are related tasks (competencies), which are identified by an Arabic numeral.

On the cross-reference table, unit numbers are shown by Roman numerals (I, II, III, etc.). Lessons within a unit are shown with Arabic numerals. Therefore, the first objective in Lesson 1 is numbered 1.1, the second is 1.2, and so on. Other components of the module (transparencies, handouts, assignment sheets and job sheets) also use this numbering system. By using the cross-reference table, the instructor can determine quickly which test questions or job sheets are needed to evaluate a particular competency.

Objectives (color-coded white)

Each unit is based on performance objectives which state the measurable unit and specific behavioral or performance objectives that students are expected to achieve. Since the objectives of the unit provide direction for the teaching-learning process, it is important for the teacher and students to have a common understanding of the objectives' intent. Teachers should feel free to add/adapt objectives which will fit the material to student and community needs. Supporting material will, of course, need to be added for any new objectives.

Table of contents, references, notes to the instructor (color-coded pink)

These pages have been coded pink for instructor use only. The reference section lists materials used as sources in developing the material. Special instructions on audiovisuals, supplies, etc. are included in the Notes to the Instructor section.

Information sheets (green)

Presented in outline form for clarity, these pages provide content essential for meeting the cognitive (knowledge) objectives in the unit. Students should study the information sheets before class discussion or completion of assignment sheets. **CAUTION** statements indicate possible equipment damage, while **WARNING** statements recommend procedures to avoid bodily injury. Handouts and transparency masters have been keyed in the information sheets for instructional use.

Transparency masters (white)

Transparencies provide information by visually reinforcing or clarifying ideas presented in the information sheets. They are effective when identification is necessary and direct the class's attention to the topic of discussion. Transparencies should be left on the screen only when topics shown are under discussion, however.

Handouts (white)

A handout is used whenever more detailed information is needed than can be presented in a transparency. Handouts give the students additional information that can be kept with class notes or student references.

Assignment sheets (tan/gray)

Assignment sheets furnish paper-and-pencil practice to develop the knowledge necessary as a prerequisite to skill development. They can be given to students for class completion or used as homework assignments. Answer sheets (color-coded pink) can be used by the student or instructor to check progress.

Job sheets (blue)

These evaluation instruments are provided for two purposes: to outline steps of procedure and to check student performance mastery. Job sheets begin with a list of tools and materials needed for the activity. Job sheets furnish potential employers with a picture of skills being taught and performance which might be reasonably expected from a vocational student The spaces to the right of the page on a job sheet assist the instructor in evaluating a student on a particular activity. This 3-2-1-N grading system is the same as the one used on the competency profile.

Unit test (yellow)

Competency-based tests are designed to help eliminate subjective testing and to improve student evaluation and accountability. Specific competencies and test questions are linked on the answer key. These unit tests have been written to be used with computerized VAMS (Vocational Administrative Management System), utilizing Scantron sheets for computer-recording of test answers.

The unit test may be eliminated if the competency was thoroughly evaluated by job sheets. However, an emphasis should be placed on cognitive as well as performance skills. If the objective or competency will be evaluated by a job sheet, it is often necessary to determine by a written test whether the student understands enough of the material to perform the job sheet.

SUGGESTED ACTIVITIES

The following list of suggested activities may be helpful, especially to the beginning instructor.

1. Provide students with objective sheet and information sheets.
2. Discuss unit and specific objectives.
3. Discuss information sheets, assignment sheets and/or job sheets, lesson-by-lesson.
4. Have students do assignment sheet(s) to satisfactory levels.
5. Give students unit test.
6. After successful completion of the test, have students do job sheet(s).

Students should perform the following activities.

1. Read objective sheet.
2. Study information sheets.
3. Do assignment sheet(s).
4. Take unit test.
5. Do job sheets.

PACKAGING

This Commercial Art guide has been packaged with the entire class in mind. A complete instructor's guide contains all five modules. In the student reference, selected portions have been reproduced for student use (objectives page, information sheets, handouts). Student work sheets (assignment sheets, job sheets, unit tests) have been packaged together for student distribution as the instructor deems necessary.

In the student reference, page numbers do not run consecutively because some pages have been removed that appear only in the instructor's guide.

MODULE 1: FUNDAMENTALS OF COMMERCIAL ART

CROSS-REFERENCE TABLE OF INSTRUCTIONAL MATERIALS

Compe-tency	Instructional Objective	Transparency Master	Handout	Assignment Sheet	Job Sheet	Test Item	Notes
A1	I 2.2, II 2.4				II 2.1	I 3, 4, 18	
A2	I 2.2, II 2.4				II 2.1	I 5, 19	
A3	I 2.2, II 2.4				II 2.1	I 10, 13	
A4	I 2.2, II 2.4				II 2.1	I 14	
A5	I 2.2, 3.2					I 8-9, 16, 20	Also in Mod. 2
A6	I 3.1					I 21	Also in Mod. 2
A7	I 2.3, 3.1, II 2.4				II 2.1	I 7, 22, 23	Also in Mod. 2
A8	I 3.1					I 24	Also in Mod. 2
A9	II 2.1, 2.5				II 2.2	II 13-14	
A10	II 1.1-1.3, 2.6				II 2.3	II 1-7	Also in Mod. 2
A11	II 2.2, 2.6				II 2.3	II 8-9	
A13	I 3.2					I 25-26	Also in Mod. 2
A14	I 3.2					I 27	Also in Mod. 2
A15	II 2.2, 2.6				II 2.3	II 15-16	Also in Mod. 2
A16	II 2.3, 2.5				II 2.2	II 10-12	

Compe-tency	Instructional Objective	Transparency Master	Handout	Assignment Sheet	Job Sheet	Test Item	Notes
A17	I 2.1, 2.2					I 6, 11, 15, 17	IV Notes to instructor
A18	IV 2.1, 2.3					IV 11, 13-20	
G1	*						*In Mod. 2
G2	V 1.4				V 1.3	IV 12, V 4, 9	
G3	V 1.5				V 1.1	V 4, 5	
G4	VI 1.2, 1.4, 1.6, 1.7				VI 1.1, 1.2	VI 1, 6-8, 11-13	
G5	IV 2.1-2.2, V 1.2-1.4				V 1.1, 1.3	IV 9-10, V 1, 3, 4, 8	
G6	VI 1.3, 1.6				VI 1.1	VI 3, 4, 9-10	
G7	VI 1.5, 1.7		VI 1.1		VI 1.2	VI 2, 5, 14-15	VI Notes to instructor
G8	IV 2.1, V 1.1, 1.6				V 1.2	I 12, V 2, 4, 6, 7	
L2	IV 1.1, V 1.6, VI 1.2					IV 1-8, V 6-7, VI 6-8	
R1	III 1.1-1.3		III 1.1	III 1.1		III 1-3, 5-11	Also in Mod. 4
R2	III 2.1-2.4, IV 1.1		III 2.1			III 4, 12-21, IV 1-8	Also in Mod. 4

MODULE: FUNDAMENTALS OF COMMERCIAL ART

UNIT I: BASIC TOOLS

UNIT OBJECTIVE

Upon completion of this unit, the student will discuss the role of the commercial artist and demonstrate proper uses of basic tools and equipment. This knowledge will be evidenced by completion of the unit test to specified score.

SPECIFIC OBJECTIVES

After completion of the lessons in this unit, the student will be able to:

1.1 Identify terms and definitions.

1.2 Describe characteristics of the commercial art field.

2.1 Identify basic equipment used by a commercial artist. (partial competency A17)

2.2 Identify typical tools used by a commercial artist. (partial competencies A1-5, A17)

3.1 Discuss types of pencils, sharpeners and erasers. (partial competencies A6-8)

3.2 Discuss uses of markers, technical pens and ink. (partial competencies A5, A13-14)

MODULE: FUNDAMENTALS OF COMMERCIAL ART

UNIT I: BASIC TOOLS

CONTENTS OF THIS UNIT

A. Objective sheet

B. References

C. Notes to the instructor

D. Lesson plans

1. Lesson 1: JOB OUTLOOK

   a. Information outline

2. Lesson 2: TOOLS AND EQUIPMENT

   a. Information outline

3. Lesson 3: PENS, PENCILS AND MARKERS

   a. Information outline

E. Unit test

F. Answers to unit test

REFERENCES

A. Books

1. Occupational Outlook Handbook (Bulletin 2300). 1988-89 ed. Washington, D.C.: U.S. Department of Labor, 1988.

2. Crow, Wendell C. Communication Graphics. Englewood Cliffs, NJ: Prentice-Hall Inc., 1986.

B. Curriculum guide

1. Hoisington, James, and Joseph Metcalf. Graphic Arts/Offset Lithography. University of Missouri-Columbia: Instructional Materials Laboratory, 1988.

NOTES TO THE INSTRUCTOR

A. Suggested approach to teaching this unit

1. In the true-false section of the unit test, the instructor could have students correct the false statements for extra credit.

B. Suggested supplemental materials

1. Videos

a. Introduction to the Graphic Arts Industry (GA-88-100, T&I video #20). Sedalia, MO: The Media Center, State Fair Community College, 1988. 5:05 min. (Available for purchase from SFCC; available for loan from Missouri Vocational Resource Center, phone 800/392-7217 or 314/882-9610)

NOTE: This video gives an overview to the entire graphic arts industry. In a commercial art program, the instructor will put more emphasis on design aspects of the industry and less on printing aspects.

b. Technical Pen Care (T&I video #87, 11 min.) and World of Rapidograph Art (T&I video #88, 43 min.). Bloomsbury, NJ: Koh-I-Noor Rapidograph, Inc., 1988. An artist demonstrates technical pen care and techniques **(competencies A5 and A14)**. (Available for loan from Missouri Vocational Resource Center, phone 800/392-7217 or 314/882-9610)

c. Safe and Successful Use of Art Materials (video). 1989. Approx. 30 min. Available from National Art Materials Trade Association, 178 Lakeview Avenue, Clifton, NJ 07011 (201/546-6400).

2. Graphics supply catalog

MODULE: FUNDAMENTALS OF COMMERCIAL ART

UNIT I: BASIC TOOLS

LESSON 1: JOB OUTLOOK

I. **Identify terms and definitions.**

A. Visual artist--one who uses a variety of methods and materials to communicate ideas, thoughts and feelings. The two general categories are fine arts and graphic arts.

B. Fine artist--one who creates art to satisfy an inner need for self-expression

C. Commercial artist--one who uses skills and artistic vision to satisfy a client's need

D. Graphic artist--often mistaken for a printer; prepares art from rough design stage through camera-ready stage

E. Designer--one who arranges and creates a composition that will serve a purpose and be visually pleasing; involves work in related fields such as manufacturing (industrial or package designer), decorating (interior or set designer), fashion, textiles or floristry (floral designer, florist)

F. Portfolio--collection of a visual artist's best work which is frequently used to secure employment

II. **Describe characteristics of the commercial art field.**

A. Some job titles: illustrator, editorial artist, medical or scientific illustrator, cartoonist, animator

B. Highly creative, varied work

C. Talent and flair demonstrated by portfolio

D. Either salaried or self-employed (free-lance)

E. Education usually required: two-year vocational, two-year associate degree or four-year art degree

F. Good communication skills needed

G. Employment growth expected, but fierce competition

H. Concentration of jobs in large cities

I. Additional career information sources

1. The Graphic Artists Guild, 11 West 20th St., New York, NY 10011

2. The Society of Illustrators, 128 East 63rd St., New York, NY 10021

MODULE: FUNDAMENTALS OF COMMERCIAL ART

UNIT I: BASIC TOOLS

LESSON 2: TOOLS AND EQUIPMENT

I. **Identify basic equipment used by a commercial artist.**

A. Drawing tables (All should have a true-edge, a metal guide attached to the drawing surface's edge that is used to align a T-square.)

B. Light table or light box

C. Tool organizer

D. Adjustable lamp

E. Waxer (hand or table-top models)

F. Taboret (side stand with shelves or cabinet with drawers)

II. **Identify typical tools used by a commercial artist.**

A. T-square (metal with plastic head preferred over wooden or all plastic)

B. Triangles

C. Knife--drafting style (X-acto®, for example) with #11 blade

D. Scissors

E. Ruler, stainless steel with etched measurements in pica, inch and agate scales

F. Bow compass with attachment for a technical pen

G. Divider

H. Burnishers

I. Brushes

J. Cutting board

K. Rubber cement

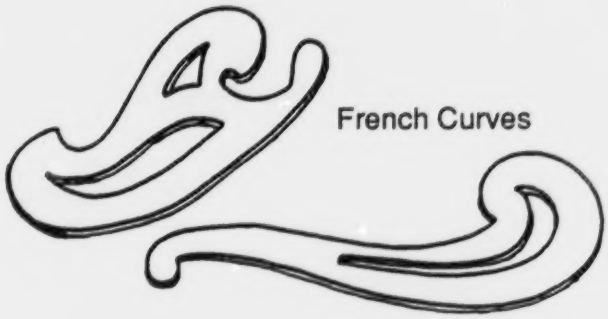
L. Erasers

M. Blue pencil (non-reproducing)

N. Graphite pencils (hard and soft leads)

Paste-up Tools

Adjustable Triangle

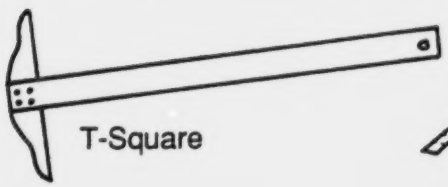


French Curves

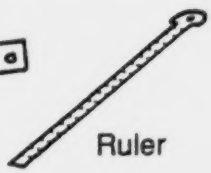
Clear Plastic Triangles

Adjustable Curve

Non-Reproduction Pencil

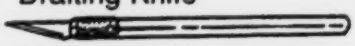


T-Square

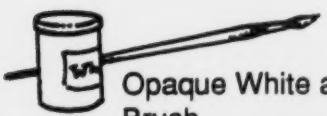


Ruler

Drafting Knife



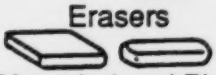
Scissors



Opaque White and Brush

Technical Pen

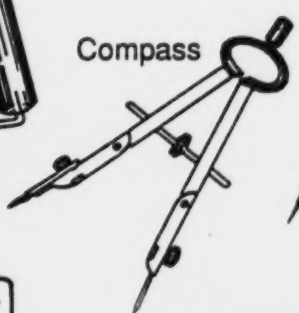
Erasers



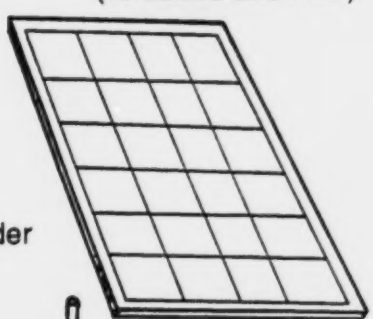
(Kneaded and Pink)

Burnishing Roller

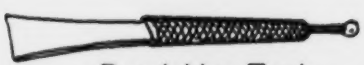
Compass



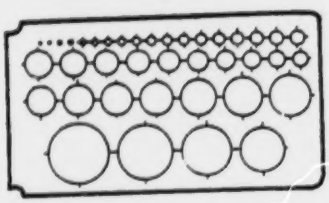
Divider



Cutting Board



Burnishing Tool

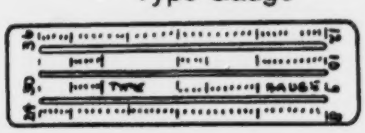


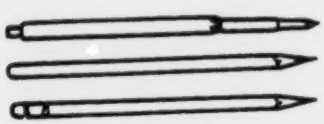
Template

Rubber Cement and Dispenser

Proportional Scale

Type Gauge





Pencils

O. Technical pens

P. Type gauge

Q. French curve, adjustable curve

R. Circle and ellipse templates

S. Proportion scale

MODULE: FUNDAMENTALS OF COMMERCIAL ART

UNIT I: BASIC TOOLS

LESSON 3: PENS, PENCILS AND MARKERS

I. **Discuss types of pencils, sharpeners and erasers.**

A. Pencils

1. Pencils with hard lead are designated by the letter "H", while soft-lead pencils carry the letter "B".

2. The larger the number, the harder or softer that pencil's lead. For example, a 6B pencil is very soft, while a 6H lead is very hard.

3. Different effects can be achieved by using different kinds of pencils. Shading is much easier with a soft pencil, for example.

4. Light blue, non-reproducing pencils are very useful because they are invisible to most lenses and films (from the photocopier to the process camera).

B. Sharpeners--electric, hand-held and crank models

C. Erasers

1. Selection is largely dependent on the individual job and personal preference. **Kneaded** erasers do not leave a residue, whereas a **pink** eraser will. (Use a brush to remove crumbs from artwork.)

2. Also, a kneaded eraser is not abrasive to the paper's surface.

II. **Discuss uses of markers, technical pens and ink.**

A. Technical pens

1. Tech pens are superior to flairs or ballpoint pens whenever a specific width of line is needed. The quality and width of a well-maintained technical pen's line rarely varies, unlike that of a flair or ballpoint pen.

2. Most commonly used sizes of tech pens are 00, 0, 1, 2, 3.

3. Tech pens require more maintenance than flairs or ballpoint pens, but they should also last longer.

B. Ink for technical pens

1. Color or black

2. Permanent or washable

C. Markers

1. Useful for preparing color "comps" (comprehensives) for better visualization of finished product

2. Permanent or washable

3. Many available colors and tip widths

4. Selection dependent on specific job and artist preference

MODULE: FUNDAMENTALS OF COMMERCIAL ART

UNIT I: BASIC TOOLS

UNIT TEST

Select the option that answers the question.

___ 1. Which person is often mistaken for a printer?

a. Commercial artist
b. Designer
c. Fine artist
d. Graphic artist

___ 2. Which person creates art primarily to satisfy an inner need for self-expression?

a. Commercial artist
b. Designer
c. Fine artist
d. Graphic artist

Identify true statements with an "a" and false ones with a "b".

___ 3. True-edges are optional T-square attachments.

___ 4. Plastic T-squares and rulers should not be used with drafting knives.

___ 5. A commonly used triangle has angles of 30°, 60° and 90°.

___ 6. Stainless steel rulers should have measurements etched, not painted.

___ 7. Blue, non-reproducing pencils are considered optional equipment for a commercial artist.

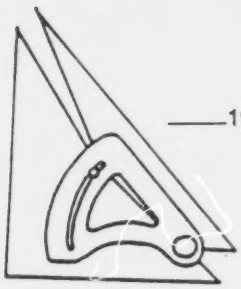
___ 8. Technical pens and ballpoint pens are the same thing.

___ 9. Ballpoint pens last longer than tech pens.

___ 10. A #11 blade is commonly used with a drafting knife.

Match illustrations with tool names.

a. Adjustable triangle
b. Adjustable curve
c. Burnishing roller
d. Compass
e. Divider
ab. Drafting knife
ac. Fine-point black pen
ad. French curve
ae. Proportion scale
bc. Scissors
bd. T-square
be. Technical pen
cd. Template
ce. Triangle



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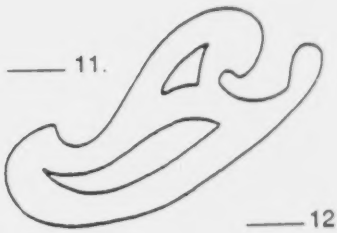

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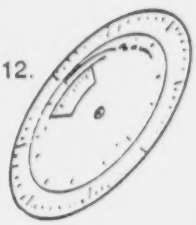

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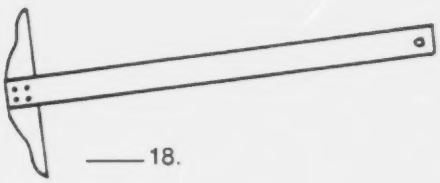


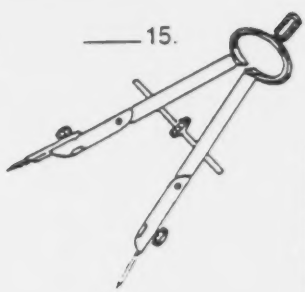
—— 18.

—— 13.

—— 14.

—— 16.

—— 15.



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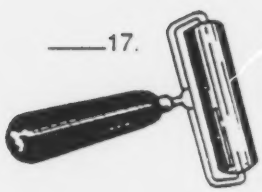

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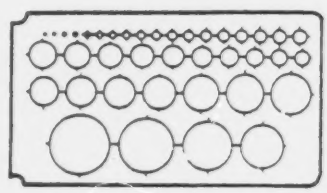


Identify true statements with an "a" and false ones with a "b".

___ 21. Tech pens require the same maintenance as flairs or ballpoint pens.

___ 22. Sharpeners are available in electric, hand-held and crank models.

___ 23. Different effects can be achieved by using different kinds of pencils.

___ 24. Shading is more easily accomplished with a 5H pencil than a 5B pencil.

___ 25. Kneaded erasers frequently leave a crumbly residue.

___ 26. Markers are useful for preparing color comps.

___ 27. While markers are easy to use, they are limited to only a few tip widths.

___ 28. All technical pen ink is black and permanent.

ANSWERS TO UNIT TEST

1.	d		15.	d	(A17)
2.	c		16.	be	(A5)
3.	b	(A1)	17.	c	(A17)
4.	a	(A1)	18.	bd	(A1)
5.	a	(A2)	19.	a	(A2)
6.	a	(A17)	20.	cd	
7.	b	(A7)	21.	b	(A5)
8.	b	(A5)	22.	a	(A6)
9.	b	(A5)	23.	a	(A7)
10.	a	(A3)	24.	b	(A7)
11.	ad	(A17)	25.	b	(A8)
12.	ae	(G8)	26.	a	(A13)
13.	ab	(A3)	27.	b	(A13)
14.	bc	(A4)	28.	b	(A14)

NOTE: The number in parenthesis shows the competency that question evaluates.

MODULE: FUNDAMENTALS OF COMMERCIAL ART

UNIT II: PAPER AND RELATED SUPPLIES

UNIT OBJECTIVE

Upon completion of this unit, the student will demonstrate proper uses of paper, tapes, paints and fixatives. This knowledge will be evidenced by completion of the job sheets and unit test to specified scores.

SPECIFIC OBJECTIVES

After completion of the lessons in this unit, the student will be able to:

1.1 Discuss paper's various grades and printing uses.

1.2 Describe three important characteristics of paper.

1.3 Identify types of paper appropriate for layout and design work. (competency A10)

2.1 Identify supplies used in pasteup. (partial competency A9)

2.2 Discuss paints and fixatives used by a commercial artist. (partial competencies A15 and A11)

2.3 Identify other materials that may be useful to a commercial artist. (partial competency A16)

2.4 Prepare simple notepad layout. (competencies A1-4, A7, JS 2.1)

2.5 Create artwork using adhesive tapes and press-type. (competencies A9, A10 and A16, JS 2.2)

2.6 Create illustration using water-based paint and fixative. (competencies A11, partial A10 and A15, JS 2.3)

MODULE: FUNDAMENTALS OF COMMERCIAL ART

UNIT II: PAPER AND RELATED SUPPLIES

CONTENTS OF THIS UNIT

A. Objective sheet

B. References

C. Notes to the instructor

D. Lesson plans

1. Lesson 1: PAPER

   a. Information outline

2. Lesson 2: RELATED SUPPLIES

   a. Information outline

   b. Job sheets

      JS 2.1: Prepare simple notepad layout
      JS 2.2: Create nameplate with border
      JS 2.3: Create illustration using water-based paint and fixative

E. Unit test

F. Answers to unit test

REFERENCES

A. Books

1. Pocket Pal: A Graphic Arts Production Handbook. 14th ed. Memphis, TN: International Paper, 1989.

2. Snyder, John. Commercial Artist's Handbook. New York: Watson-Guptill Publications, 1973.

B. Curriculum guide

1. Hoisington, James, and Joseph Metcalf. Graphic Arts/Offset Lithography. University of Missouri-Columbia: Instructional Materials Laboratory, 1988.

NOTES TO THE INSTRUCTOR

A. Suggested approaches to teaching this unit

1. Using paper samples, help students select paper for various types of jobs, such as for water-based painting, letterheads, concert programs, the school newspaper, newsletters, brochures and business forms.

2. Illustrate print quality by comparing the differences between halftone pictures printed on coated, uncoated and newsprint papers.

3. Clip art is designed to be used "as is" or can be altered.

B. Suggested student activities

1. In preparation for JS 2.1, ask students to submit one-color sketches of half-sheet memo designs (5.5" x 8.5") for personal or class use. The design should incorporate the following:

   5.5" x 8.5" overall size
   1/2" margins
   Centered lettering (hand-lettered, cut from a magazine or instructor-supplied)
   Illustration or graphic (black-and-white line art)

C. Suggested supplemental materials

1. Paper supplier samples and catalogs

2. Art services (clip art or computer graphics), such as those available from:

   a. Dynamic Graphics, Inc., 6000 N. Forest Park Dr., PO Box 1901, Peoria, IL 61656-1901 (800/255-8800)

   b. Volk Clip Art, PO Box 347, Washington, IL 61571-0347

3. Paper. (GA-88-170, T&I video #23). Sedalia, MO: The Media Center, State Fair Community College, 1988. 11:18 min. (Available for purchase from SFCC; available for loan from Missouri Vocational Resource Center, phone 800/392-7217 or 314/882-9610)

4. Paper is Part of the Picture (video). 1987. 22 min. Available from Artist Products Dept., Strathmore Paper Co., Dept. SS, Box 191, Westfield, MA 01085 (413/568-9111).

5. How Computers Work (ITE video #77). Wilkes Barre, PA: The Computer Museum, 1990. 26 min. (Available for loan from Missouri Vocational Resource Center, phone 800/392-7217 or 314/882-9610)

MODULE: FUNDAMENTALS OF COMMERCIAL ART

UNIT II: PAPER AND RELATED SUPPLIES

LESSON 1: PAPER

NOTE: Some types of paper are better than others for certain applications. The commercial artist needs to know appropriate uses of various types of paper to better serve the client and to communicate well with the printer. Sample papers are available from paper companies and/or printers.

I. **Discuss paper's various grades and uses for printing.**

A. Bristol (22.5" x 28.5")

1. A board stock that has a softer surface than index or tag
2. Works well for high-speed folding, embossing or stamping
3. More economical than cotton fiber stocks

B. Cover (20" x 26")

1. Heavier weights of coated and text papers for use as covers
2. Many special surface textures
3. Usually twice the thickness of its text paper counterpart

C. Text (25" x 38")

1. Known for texture and color range
2. Commonly used for brochures, booklets, announcements

D. Book (25" x 38")

1. Textbooks and general printing
2. Less expensive and wider range of weights and bulk than text papers

E. Bond (basic size: 17" x 22")

1. Commonly used for business forms and letters
2. Standard cut sheet of 8.5" x 11"

F. Coated (25" x 38")

1. Generally higher reproductive quality
2. Can be coated one-side only (C1S) or on both sides (C2S)

3. More limited in colors than uncoated

4. Finish: glossy to somewhat dull

G. Newsprint (24" x 36")--also available in rolls

H. Index (22.5" x 35", 25.5 x 30.5")

1. Stiff and receptive to ink; inexpensive

2. Smooth and vellum finishes

II. **Describe three important characteristics of paper.**

A. Grain--refers to position of the fibers; length usually parallel to grain

1. Paper folds more smoothly **with** the grain.

2. Pages in books and catalogs turn more easily and lie flatter when the grain is parallel with the binding edge.

3. Grain direction is indicated by a line under the size on a paper carton's label.

B. Strength

1. Tearing resistance achieved during paper manufacturing

2. Tensile strength (lengthwise)

C. Basis weight--critical use factor

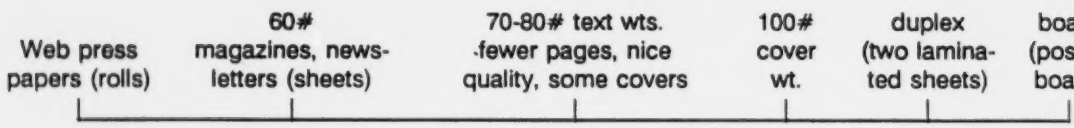
1. Paper is frequently classified by the weight of a ream (500 sheets) of paper in its basic size (i.e., 70-pound coated). However, paper catalogs frequently price paper by its weight per thousand sheets (M).

Example: 25 x 38 - 140M means that 1,000 25" x 38" sheets weigh 140 pounds

2. Heavier weights are more stable in shipping, but a sheet that is **too** heavy will not fold well.

3. Quality is often communicated by the paper's weight.

4. The paper's use must be taken into consideration. For example, as a pasteup base, a 100 pound (100#) coated sheet usually works just as well as matte board, which is more expensive. A 100# coated sheet would **not** work well with watercolors or other painting, however.


Web press papers (rolls)
60# magazines, newsletters (sheets)
70-80# text wts. fewer pages, nice quality, some covers
100# cover wt.
duplex (two laminated sheets)
board (posterboard)

III. **Identify types of paper appropriate for layout and design work.**

A. Layout papers

1. Thin paper for rough sketches
2. Should not allow bleed-through from markers
3. Also known as tracing, drawing, bond, layout and visualizer paper
4. Used with most dry media
5. Available in various sizes; usually in pad

B. Presentation paper and board

1. Used for comprehensives and single displays
2. Available in single sheets
3. Needs careful handling (shows fingerprints and errors easily; erasures done only by blotting with a kneaded eraser; cracks easily when folded, etc.)
4. Includes Color-Aid, flocked and flint papers
5. Also, TV board (range of gray colors), mat board and poster board (used mostly for signs)

C. Artwork paper and board

1. Generally used more by illustrators than by commercial artists
2. Common papers used by commercial artists: bristol, bond and ledger, newsprint and manila, watercolor, fine arts
   a. Bristol sheets come in one-, two- and three-ply and take considerable abuse without becoming damaged.
   b. Plate finish (hot press) is glossy, while kid finish (cold press) is matte.
   c. Bristol papers come in single sheets and pads of varying sizes.
   d. Bond and ledger papers are lower in quality than bristol but are much less costly.
   e. Newsprint and manila papers are useful for rough sketching only.
   f. Watercolor papers are important to the illustrator and many should be stretched before use.
   g. Fine art papers are expensive, limited in use and generally used only by the illustrator. Examples include parchments, pastel and charcoal papers.

3. Artwork boards: illustration board and textured boards

   a. Illustration board is the most widely used because of its bristol-like characteristics.

   b. Poorer quality boards (and papers) fray quickly and show erasures easily.

D. Construction paper and board

1. Sturdy papers that include stencil, frisket, oak tag and pressure stick (adhesive-backed)

2. Kraft paper commonly used for wrapping artwork

3. Matte "no-seam" paper available in wide rolls for backgrounds

4. Large selection of boards: foam core, mounting board, corrugated and line-up board (has light blue lines)

MODULE: FUNDAMENTALS OF COMMERCIAL ART

UNIT II: PAPER AND RELATED SUPPLIES

LESSON 2: RELATED SUPPLIES

I. **Identify supplies used in pasteup.**

A. Illustration board

B. Cover tissue

C. Wax

1. Advantages: Bonds well without discoloring or bleed-through, permits more movement than rubber cement, excess removable by rubbing with facial tissue or cheesecloth

2. Disadvantages: waxer needed to melt the wax, more expensive than rubber cement, can be absorbed into paper if overheated

D. Rubber cement and thinner

1. Advantages: Very economical to use, excess removable with rubber cement pick-up or finger (after drying)

2. Does not allow easy movement after drying, messy while wet

E. Stick wax adhesive

F. Tapes

1. Drafting tape, 1/2" (for securing paper to drawing surface)

2. Clear, cellophane tape or lithographer's tape

NOTE: Avoid frosted, matte-finish tapes because of darkroom problems. Avoid taping over elements that need to reproduce.

3. Border and ruling tapes--great variety; tape with rule on a plastic backing generally more stable and smooth-edged

G. India ink

H. Films

1. Clear film

2. Shading and tint films

3. Ruby and/or amber cut-and-peel film

I. Opaque white fluid

J. Register marks

II. **Discuss paints and fixatives used by a commercial artist.**

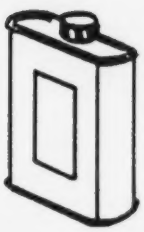
A. **Water-based** paints contain ground pigments; common types are tempera and gouache. Water-based paints are easily cleaned up and usually dry faster than oil-based paints. They are preferable for airbrush work since they produce few or no vapors and are easy to clean.

B. Long-lasting **oil-based** paints are frequently used for exterior signs and particular illustration techniques. Solvents are needed for clean-up; no fixatives are necessary.

C. Plastic-based **acrylic** paints have some characteristics of both water-based and oil-based paints. While water-soluble for easy clean-up, they are permanent when dry, requiring no fixative.

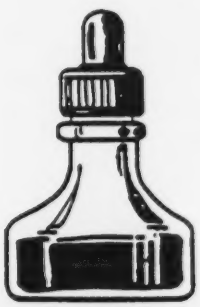
PASTEUP SUPPLIES

Rubber Cement



Rubber Cement Thinner

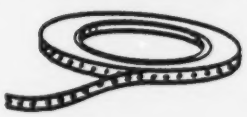
Shading or Tint Films



India Ink Bottle with Eyedrop Stopper

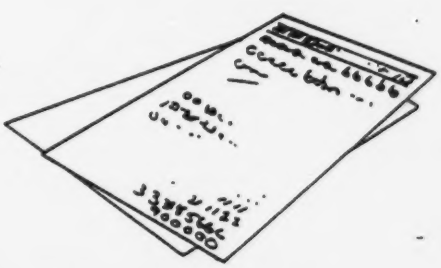
Opaque White

Clear and Masking Tape



Border and Ruling Tape

Register Marks



Dry Transfer Lettering

D. **Fixatives** add longevity to pencil, charcoal and water-based paints. They protect a work from minor scratching, finger-printing and smearing.

1. Available in permanent or workable types

2. Good ventilation required for use

3. Can change a color's texture or brightness

III. **Identify other materials that may be useful to a commercial artist.**

A. Press-type (rub-on lettering)

1. Available in sheets, this lettering is useful for headlines, special design applications or preparing comprehensive layouts.

2. Keep lines of type straight by using a non-photo blue guideline (for camera-ready copy) or a light pencil guideline above or below the rub-on lettering.

B. Textured, adhesive screens--wide variety; same design repeated on a full sheet

C. File or idea "morgue"

1. This collection of photos, design ideas, borders or finished pieces is particularly handy while illustrating.

2. Delays are eliminated that would be otherwise necessary, such as stopping to photograph or study a subject.

PREPARE SIMPLE NOTEPAD LAYOUT

INSTRUCTOR'S NOTE: Students may use their own designs or an instructor-furnished design for this activity. The design should incorporate:

5.5" x 8.5" overall size
1/2" margins
Centered lettering (hand-lettered, cut from a magazine or instructor-supplied)
Illustration or graphic (black-and-white line art)

Equipment:

T-square
Triangle
Drawing table
Blue pencil
Ruler
Black ink pen
Drafting knife and scissors
Baseboard (or heavyweight white paper)
Drafting tape
Rubber cement and pick-up tool **or**
Waxer and facial tissue or cheesecloth
Burnishing tool or roller

Procedure:

1. Prepare baseboard.

   a. Square the baseboard with T-square on light table or drawing table; tape down corners with drafting tape.
   b. Measure notepad's outside dimensions (5 1/2" x 8 1/2"). With blue pencil, draw edge lines, center lines (both horizontal and vertical), and 1/2" margin lines.
   c. Draw crop marks in black to indicate the corner edges of the layout. Stop about 1/8" short of the actual edge.

2. Gather all pasteup elements.

   a. Check rough layout for approximate positions.
   b. Leaving about 1/8" around the image, trim excess paper from elements with scissors or knife.
   c. Wax the back of all elements. If using rubber cement, handle each separately.

   NOTE: Using a drafting knife to hold and place elements keeps the layout neater by keeping adhesive off your hands.

3. Adhere elements to baseboard.

   a. Work from top to bottom; square all elements with T-square.
   b. Follow layout for position.

4. Center copy on pasteup using the center-line method to determine horizontal placement.

   a. Using ruler, measure each element and place a small dot at the center of each with the light blue pencil.
   b. Paste up copy by aligning center dot on each element with center line on base sheet.
   c. Check each element with T-square for straightness as it is pasted down.
   d. Burnish elements to layout.

NOTE: Vertical centering requires more space at bottom than at top for obtaining optical center of balance.

5. Complete pasteup by removing excess adhesive and cleaning up work area.

   a. Remove excess wax by rubbing with cheesecloth or facial tissue.
   b. Remove excess rubber cement with finger or rubber cement pick-up tool.
   c. Cover finished pasteup with a protective tissue overlay.

Product evaluation:	Evaluation 3	2	1	N
1. Is the layout neat and free of excess adhesive and stray marks?	—	—	—	—
2. Are measurements and corner marks accurate and square?	—	—	—	—
3. Were the scissors and drafting knife used safely?	—	—	—	—
4. Were the T-square and triangle used properly?	—	—	—	—
5. Were elements trimmed no closer than 1/8"? Are elements free of rips or bends?	—	—	—	—
Average of above evaluations*	—	—	—	—

*This average is the student's partial evaluation for competencies A1-A4 and A7.

CREATE NAMEPLATE WITH BORDER

Equipment:

Adhesive tapes (ruling or border)
Press-type lettering
Drafting tape
Illustration board or coated cover stock
Tissue or tracing sheet

Burnisher tool
Non-repro pencil
Drafting knife
T-square
Metal ruler
Triangle

Procedure:

1. Select adhesive tape and press-type lettering suitable for your name, personality and nameplate size.
2. Rule the page size, center, type baseline and other necessary guidelines in blue pencil. Draw crop marks in ink.
3. Beginning in the center, rub press-type with pencil or burnishing tool to affix letters to layout. Use tissue to protect lettering as you work.
4. Apply adhesive tape border as desired. Cut 90-degree corners at a 45-degree angle (mitering); remove excess tape.
5. Cover finished art with a suitable tracing sheet. Burnish all elements.

Product Evaluation:	Evaluation 3	2	1	N
1. Appropriate paper, type and border selection	—	—	—	—
2. Straightness of lettering	—	—	—	—
3. Secured layout; straightness of ruling/border	—	—	—	—
4. Centering and alignment	—	—	—	—
5. Letterspacing	—	—	—	—
6. Mitered corners	—	—	—	—
Average of above evaluations*	—	—	—	—

*This average is the student's final evaluation for competencies A9 and A16 and partial evaluation for A10.

CREATE ILLUSTRATION USING WATER-BASED PAINT AND FIXATIVE

Equipment:

Water-based paint
Fixative
Non-repro pencil
Drafting tape
Paper (as selected by student)
Burnisher tool
Drafting knife
T-square
Metal ruler
Triangle

Procedure:	Evaluation 3	2	1	N
1. Select subject to be illustrated. Gather necessary supplies.	—	—	—	—
2. Create several rough pencil sketches of subject to determine design for illustration.	—	—	—	—
3. Attach selected paper to drawing board with drafting tape. Using T-square, non-repro pencil and ruler, indicate area where illustration is to be placed on paper.	—	—	—	—
4. Transfer best rough illustration to selected paper. (Use either non-repro pencil or soft-leaded graphite pencil [2B or softer].)	—	—	—	—
5. Select proper paint brushes. Mix or stir paint to proper consistency.	—	—	—	—
6. Using design principles and painting techniques, begin painting with base colors and build to finished artwork. (Step back frequently to view balance, color, harmony and overall look of painting.)	—	—	—	—
7. Work carefully to avoid smearing paint. When finished, clean brushes and work area.	—	—	—	—
8. When painting has dried, use fixative as needed to protect surface of artwork.	—	—	—	—
Average of above evaluations*	—	—	—	—

*This average is the student's final evaluation for competencies A11, partial A10 and A15.

MODULE: FUNDAMENTALS OF COMMERCIAL ART

UNIT II: PAPER AND RELATED SUPPLIES

UNIT TEST

Identify true statements with a "T" or "a" and false ones with an "F" or "b".

___ 1. A ream of paper is 500 sheets, regardless of size.

___ 2. The basic size of bond paper is 8.5" x 11".

___ 3. Bristol paper shows erasures and fingerprints easily.

___ 4. Newsprint is of the bristol family.

___ 5. Grain direction is indicated by a line under the size on a label.

___ 6. Hot press paper has a smooth finish.

___ 7. Index stock is expensive but receptive to ink.

___ 8. Fixatives can change a color's texture or brightness.

___ 9. Fixatives do **not** require special ventilation for use.

___ 10. A collection of photos, design ideas, borders or finished pieces is called a morgue.

Select the option that answers the question.

___ 11. Which type of adhesive bonds well without discoloring or bleed-through and permits easy movement of pasteup elements?

a. Rubber cement
b. Stick adhesive
c. Tape
d. Wax

___ 12. Which type of adhesive is messy while wet?

a. Rubber cement
b. Stick adhesive
c. Tape
d. Wax

___ 13. Which tape is preferred for securing paper to the drawing surface?

a. Clear cellophane
b. Border
c. Lithographer's
d. Drafting

___ 14. Which tape is available in a wide variety of styles?

a. Clear cellophane
b. Border
c. Lithographer's
d. Masking

___ 15. Which paint is both water-soluble and permanent (when dry)?

a. Acrylic
b. Gouache
c. Oil
d. Tempera

___ 16. Which paint is long-lasting and requires solvent for clean-up?

a. Acrylic
b. Gouache
c. Oil
d. Tempera

ANSWERS TO UNIT TEST

1.	a	(A10)	9.	b	(A11)
2.	b	(A10)	10.	a	(A16)
3.	b	(A10)	11.	d	(A16)
4.	b	(A10)	12.	a	(A16)
5.	a	(A10)	13.	d	(A9)
6.	a	(A10)	14.	b	(A9)
7.	b	(A10)	15.	a	(A15)
8.	a	(A11)	16.	c	(A15)

MODULE: FUNDAMENTALS OF COMMERCIAL ART

UNIT III: TYPE

UNIT OBJECTIVE

Upon completion of this unit, the student will identify type styles and structure. The student will also be able to identify methods of copyfitting. This knowledge will be evidenced by successful completion of the assignment sheet and the unit test.

SPECIFIC OBJECTIVES

After completion of the lessons in this unit, the student will be able to:

1.1 Match terms and definitions related to type and printers' measurements.

1.2 Given a sample of type, identify the type style.

1.3 Identify type characteristics which must be appropriate to the job design when selecting a typeface. (competency R1)

2.1 Identify elements to include in type markup.

2.2 Identify basic points to understanding copyfitting.

2.3 Identify methods of copyfitting headlines or display type.

2.4 Select appropriate text type. (partial competency R2)

MODULE: FUNDAMENTALS OF COMMERCIAL ART

UNIT III: TYPE

CONTENTS OF THIS UNIT

A. Objective sheet

B. References

C. Notes to the instructor

D. Lesson plans

1. Lesson 1: UNDERSTANDING TYPE STYLES

   a. Information outline

   b. Handout

      HO 1.1: Typeface samples

   c. Assignment sheet

      AS 1.1: Identifying type styles

2. Lesson 2: COPYFITTING AND TYPOGRAPHY

   a. Information outline

   b. Handout

      HO 2.1: Steps to copyfitting

E. Unit test

F. Answers to unit test

REFERENCES

A. Curriculum guide

1. Hoisington, James, and Joseph Metcalf. Graphic Arts/Offset Lithography. University of Missouri-Columbia: Instructional Materials Laboratory, 1988.

NOTES TO THE INSTRUCTOR

A. Suggested approaches to teaching this unit

1. The evaluation of AS 1.1 is left to the instructor.

2. Lesson 2

   a. Have students select a font and size of display type and determine the units per pica for it. Each student should use a different size and typeface. Record the results and make a wall chart for use by student designers.

   b. Have students determine from a copyfitting chart the character per pica (CPP) for each of the following types.

      6 pt Garamond (3.59)
      9 pt Spartan Light (2.76)
      10 pt Century Bold (2.14)
      8 pt Trade Gothic (2.81)
      10 pt Memphis Light (2.33)
      6 pt Bookman (3.39)

   c. The instructor should provide several 8.5" x 11" pages of typewritten copy. Have students determine the number of characters (keystrokes) by one of the methods described in the handouts.

   d. Depending on school district ability, use audiovisuals and computer tutorials to introduce electronic production.

B. Suggested student activities

1. Lesson 1 (and/or Lesson 2)

   a. The instructor may provide a list of businesses with brief descriptions of goods and services associated with each company or business. Students then break into groups of four or five, and each group selects a business. Looking at a type specimen catalog, each group selects the one type that best expresses the personality and function of the business they chose. Groups take turns explaining why they chose a particular type design and what characteristics of the type seem to reflect the characteristics or personality of the company.

   b. After studying trademarks and identifying symbols (logos) of companies, students can discuss why they think a particular design or style was chosen for that company.

2. (Lesson 2) Given a manuscript, have students redesign its layout with proper attention to aesthetics, appropriateness, legibility, word spacing, line leading and type arrangement.

C. Suggested supplemental materials

1. Audiovisuals

   a. Type Composition (GA-88-140, T&I video #21). Sedalia, MO: The Media Center, State Fair Community College, 1988. 9:54 min. (Available for purchase from SFCC; available

for loan from Missouri Vocational Resource Center, phone 800/392-7217 or 314/882-9610)

b. Copyfitting (GA-88-130, T&I video #26). Sedalia, MO: The Media Center, State Fair Community College, 1988. 12 min. (Available for purchase from SFCC; available for loan from Missouri Vocational Resource Center, phone 800/392-7217 or 314/882-9610)

c. Typefaces (#5080). Pittsburgh, PA: The Graphic Arts Technical Foundation, 1979. 24 min. slide-tape. (4615 Forbes Ave., 15213-3796)

2. Computer software

a. Depending on need, integrate typing tutorials such as Macintosh "Type!" or "Typing Instructor Encore." For a free catalog of Macintosh software, contact vendors such as MacWarehouse (800/255-6227), 1690 Oak St., PO Box 3013, Lakewood, NJ 08701-3013.

b. Popular Macintosh programs include "Microsoft Word" (word processing), "Pagemaker" or "Quark Express" (page layout), and "Freehand" or "McDraw Pro" (drawing). For the IBM, preferred programs are "WordPerfect", "Ventura Publisher" or "Pagemaker" and "Canvas".

MODULE: FUNDAMENTALS OF COMMERCIAL ART

UNIT III: TYPE

LESSON 1: UNDERSTANDING TYPE STYLES

NOTE: If a printed piece has a primary goal to communicate, then the basic ingredient of an effective graphic design is type. Very little precise information can be communicated without type. It is type's function to be expressive, create recognition, attract the reader, be easy to read, and emphasize important information. It is essential that the graphic designer learn as much as possible about type and how to use it effectively.

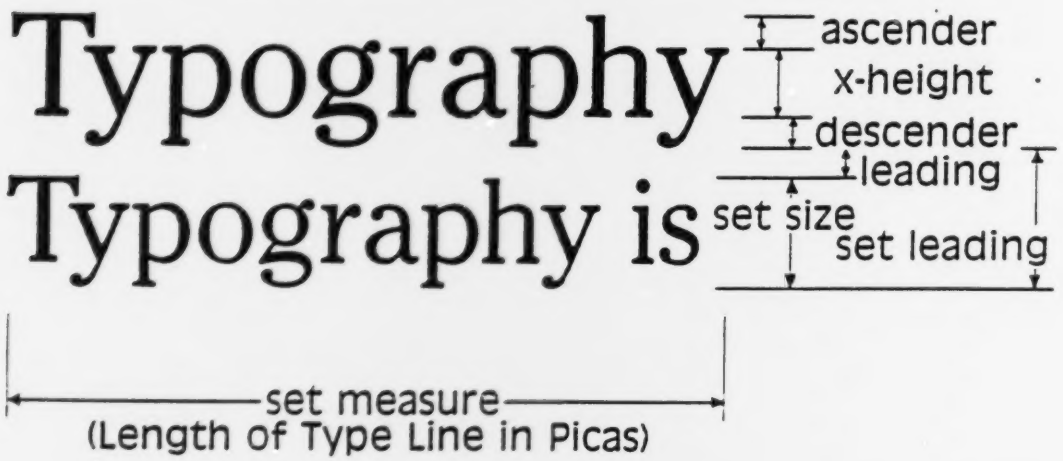
I. **Match terms and definitions related to type and printers' measurements.**

A. X-height--height of lower-case letters without ascenders or descenders; measured in points

B. Ascender--portion of the lower-case letter (b, d, f, h, k, l) that extends above the x-height

C. Bracket--on some serif typefaces, the curve connecting the serif to the upright letter stroke

D. Counter--open space within the closed space of a letterform (e.g., o, g, p)



E. Descender--portion of the lower-case letter (g, j, p, q, y) that extends below the base line

F. Base line--imaginary line upon which all lower-case and capital letters appear to rest

G. Set size--height of type in points; measured from bottom of descender to top of ascender

H. Serif--the short line that finishes the major stroke of the letter in some typefaces

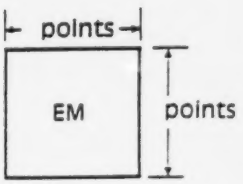
I. Set measure--length of line of type in picas

J. Leading (led'-ing)--distance between each line of type (from the bottom of the descenders of one line of type to the top of the ascenders of the following line of type); measured in points

K. Serif--the short line that finishes the major stroke of the letter in some typefaces

L. Set leading (line space)--distance from base line of one line to the base line of the following line; measured in points (Set leading is the **total** of the set size plus the leading.)

M. Define printers' measures.



1. Point--approximately 1/72 inch

2. Pica--12 points, approximately 1/6 inch

3. Em--a variable measure of area equal to the square of the point size

   EXAMPLE: A 12-point em is a square 12 points by 12 points.

II. **Given a sample of type, identify the type style. (HO 1.1)**

A. Roman or serif

1. Characterized by letters with thick and thin strokes and serifs (the line that finishes the major strokes of the letter)

2. Named from lettering used during the Roman Empire

3. Two types

   a. Old-style Roman has characteristics similar to stone-carved lettering on the Roman Coliseum.

      (1) Letter divided into thirds: x-height, ascender and descender

      (2) Serifs attached to letter by curved brackets or fillets; rounded appearance

      (3) Slight contrast between thick and thin strokes

   b. Modern Roman is similar to old-style but is much straighter and more mechanical in appearance.

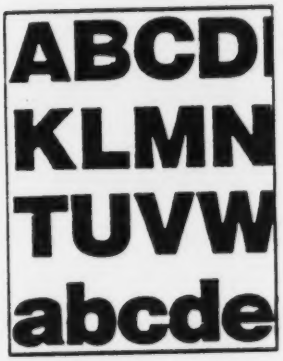
      (1) X-height greater than one-third of set size

      (2) Serifs very square and mechanical with no curved brackets

      (3) Greater contrast between thick and thin strokes

   c. Transitional describes typefaces that take on characteristics of both old style and modern. Many of the Roman types in use today fall into this category.

B. Sans serif



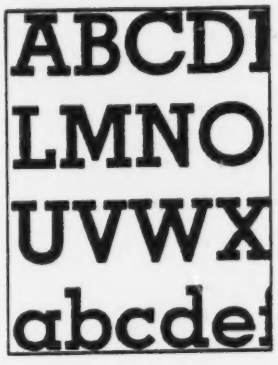
1. Sans is French for "without;" therefore, sans serif means "without serifs."

2. In a true sans serif type, all lines of the letter are equal in weight.

3. Many faces called "Gothics" are also classified as sans serif. They have a slight variance in stroke thickness.

C. Square serif--has little or no variance in stroke thickness; sometimes called "slab serif"

D. Script



1. Both cursive and script faces are usually classified as script.

2. Scripts are usually more formal than cursives, as cursive letters do not connect.

E. Old English

1. This style is sometimes classified as Old English or German black letter.

2. These faces are generally rather easy to classify.

F. Decorative--Hand-lettered shapes and designs that don't fit the criteria of other styles can be classified as decorative. These are sometimes called miscellaneous or novelty types.

III. **Identify type characteristics which must be appropriate to the job design when selecting a typeface.**

A. The ability to select one typeface over another is what separates the skilled user from the novice. One must have a feeling for and understanding of the importance of appropriate type characteristics to the job design, such as the following.

1. Psychological characteristics of type

a. Personality

b. Mood

c. Feeling or tone

d. Atmosphere

e. Congeniality

2. Design characteristics of type

   a. Type size (too large or too small)

   b. Type weight (too light or too bold)

   c. Type posture (too erect or too slanted)

3. Similarity of type to that used in competitive messages

4. Compatibility of type with corporate symbols, logos, trademarks, etc.

B. Select a few (two or three) faces for use with a design, then use variations of the type family for variety.

1. Bold

2. Light

3. Italic

4. Extended

5. Condensed

6. Outline

7. Shadow

C. Mix faces from similar styles.

D. Achieve variety by varying size, posture, and contrast of any type family within the design.

E. **Never** use script or Old English styles in all caps. These types are representative of hand lettering or writing and as such are not legible in all caps.

F. Use decorative, Old English or script sparingly--for one word or line--for emphasis or contrast.

G. Most decorative styles take on some of the characteristics of one of the other styles, but do not fit strictly into that category. Such types may be used and mixed the same as the pure style.

TYPEFACE SAMPLES

ROMAN TYPES COMPARISON

Old-style serif

Typography is the Selection of
Quality and Suitability

Modern serif

Typography is the Selection of
Quality and Suitability

SCRIPT TYPE

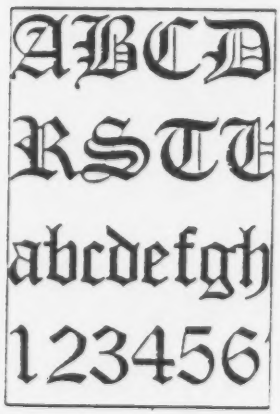
Script

Typography Is the Selection of a Congruous

And Suitability for Its

OLD ENGLISH AND DECORATIVE TYPES

Old English (Goudy Text)



Decorative (Unitype)

Garamond Light
Garamond Book
Garamond Bold
Garamond Ultra
Garamond Light Italic
Garamond Book Italic
Garamond Bold Italic
Garamond Ultra Italic
Garamond Light Condensed
Garamond Book Condensed
Garamond Bold Condensed
Garamond Ultra Condensed
Garamond Light Condensed Italic
Garamond Book Condensed Italic
Garamond Bold Condensed Italic
Garamond Ultra Condensed Italic

IDENTIFYING TYPE STYLES

Using old magazines or newspapers, clip at least two display size examples of each of the following type styles. Neatly paste them on a sheet of 8.5" x 11" paper and label them.

1. Serif
2. Sans serif
3. Square serif
4. Script
5. Old English
6. Decorative

Clip at least one display size example of each of the following type family members. Attach them to another sheet of paper and label.

7. Bold face
8. Light face
9. Ultra bold
10. Italic
11. Extended
12. Condensed
13. Outline
14. Shadow

MODULE: FUNDAMENTALS OF COMMERCIAL ART

UNIT III: TYPE

LESSON 2: COPYFITTING AND TYPOGRAPHY

NOTE: Although modern, computerized typesetting equipment makes copyfitting less important to the typesetter, it is as important as ever to the graphic designer. The first task most beginning graphic designers are assigned is to fit copy for more experienced, senior designers. The designer can take existing copy and determine the amount of space it will occupy given the type parameters of size, space, line length, etc. The designer can also use it as a tool to instruct a copy writer in how much copy should be written to fill a given space with type. Without copyfitting, the type may have to be set several times to make it fit in the allotted space. This would be time consuming and costly.

I. **Identify elements to include in type markup.**

A. Components

1. Family, family member, and size of all typefaces
2. The lengths of all lines plus the leading between each line
3. The line setting such as flush left, flush right or centered (Unmarked lines are assumed to be justified.)
4. Any special instructions (caps, lowercase, etc.)

B. Some generally accepted markup symbols

1. BF or bld--bold face
2. Lt--light face
3. Bk--book face
4. Demi--demi bold
5. Ultra--ultra bold, extra bold, etc.
6. Con--condensed
7. Ext--extended
8. Ital--italic, oblique
9. BS--back slant
10. Cps, Caps--set in all caps
11. Clc--set in caps and lower-case
12. lc--set in lower-case

13. Pt--points

14.][or ctr--center line

15. [or fl--flush left

16.] or fr--flush right

C. Some markup examples

1. 8/10/22 Bodoni bld ital

a. 8: set size in points

b. 10: set leading in points

c. 22: line length in picas

d. Bodoni: type family

e. Bld: member (bold)

f. Ital: member (italic)

g. The above markup would be read "eight on ten, twenty-two Bodoni bold italic." Type set as such would be justified.

2. 18/18/24 Lydian cursive, ctr.

3. Headline or display type markups often do not include set leading, which to the designer is of little importance. Line length marked on a centered or flush line is marked as a maximum length only.

II. **Identify basic points to understanding copyfitting.**

A. Most copyfitting methods are based on averages so that the result is really an estimate, not an exact number.

B. Because copy may have an excessive number of short words (more spaces), many words with m's or w's, or many words with thin letters such as i's, l's, etc., it becomes impossible to determine an exact character per pica (CPP) count.

C. When large quantities of copy are being worked with, the above listed abnormalities tend to average out.

III. **Identify methods of copyfitting headlines or display type.**

A. General guidelines

1. The traditional method of unit counting works fairly well for headlines and captions which repeat, such as in books, newspapers and other publications.

2. Copyfitting by unit counting has become much less important today with modern electronic/photographic typesetting and is basically valueless with digital-electronic

equipment, which is able to expand and condense type to fit the required space very quickly.

B. Character-count method **(HO 2.1)**

1. The character-count method of copyfitting body copy can be very accurate.

2. It is based on an averaging method and, as such, is more accurate for large quantities of copy, not for a line or two.

IV. **Select appropriate text type.**

NOTE: Typography is often defined as the selection and arrangement of type and white space that is pleasing to the reader.

A. The material must be appropriate to the intended purpose; a layout/type that is fancy is ill-suited for a heavy construction firm.

B. Copy must be legible; selection of type styles that are hard to read defeat the purpose of the advertisement. Such type styles should be used for emphasis but not for the body of the copy.

C. Standard word spacing is enough for most typefaces. Copy set in bold type or in all capitals may require more word spacing.

D. Letter spacing is determined by the type designer; however, it can be adjusted during typesetting for emphasis or copyfitting.

E. Line length is dependent upon the size of type used; long line lengths are hard to read. The best line length is 2.5 times the size of the type.

F. As with the line length, the leading is also dependent upon the size of type. The larger the size of type, the more leading that is required between the lines. Allow at least 20% of the point size for the leading (set leading = 120%).

G. Ornaments should not overpower the type. Bullets, stars, brackets, etc., should not distract from the type style used.

H. Avoid widows (single words on the last line of a paragraph) and orphans (indented paragraphs on the last line of a page or column) when setting type.

I. Readers prefer serif faces if the material is long.

J. Margins should approach 40% of the page area, especially for books.

K. Paragraph indention should be relative to the line length. One en for every eight picas is a good measure.

L. Script and Old English should **never** be set in all capitals.

M. Type arrangement for each line affects the legibility of the copy; modern typesetters can produce many different arrangements.

1. Justified (most common arrangement)
    a. All lines are the same length.
    b. Justified copy is comfortable reading for most people because they are used to it.
    c. Inter-word space is not uniform.
2. Ragged right
    a. Copy is set typewriter-style with right margin flush; text is not justified.
    b. Word spacing is even throughout the copy.
    c. Generally, hyphenation is not used.
3. Ragged left
    a. Left-hand margins are not justified.
    b. The fact that readers are not accustomed to this style makes this less popular.
    c. Ragged left is a good style for emphasis and short amounts of copy.
4. Centered
    a. All lines of the copy are centered in relation to each other.
    b. This is used primarily for invitations and announcements.
    c. Lines should be unequal in length; some should be short and some long.
5. Asymmetrical
    a. A combination of some or all of the above
    b. Used to emphasize certain copy
    c. Difficult to read and requires additional leading

STEPS TO COPYFITTING

	What to do	How to do it	Example (Visual 80)
1	Determine average number of characters in a line of manuscript copy.	Multiply characters/inch by manuscript line length in inches.	10x5½ = 55
2	Determine number of characters on the manuscript page.	Multiply average number of characters per line by number of lines on the page.	55x23 = 1,265
3	Determine total number of characters in manuscript.	Multiply number of characters per page by number of manuscript pages.	
4	Determine the characters per pica information for the selected style and point size.	Refer to the appropriate copyfitting chart.	10 point Century Textbook-2.44 characters/pica.
5	Determine number of typeset characters per line.	Multiply characters per pica by the selected line length. Round off decimal remainder to the next highest value.	2.44x24 = 58.56 rounded off = 59.
6	Determine the number of typeset lines.	Divide total number of typewritten characters by number of typeset characters per line.	$\frac{1,265}{59}$ = approx. 22 lines
7	Determine the depth, in points, of the typeset copy.	Multiply the number of typeset lines by the line space.	22x10 = 220
8	Convert depth in points to depth in picas.	Divide depth in points by 12.	$\frac{220}{12}$ = 18 picas, 4 points.

Credit: Basic Graphics Tutor. Wilmington, MA. Agfa Division, Miles, Inc., 1978.

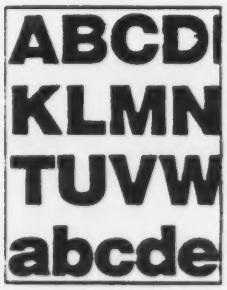
MODULE: FUNDAMENTALS OF COMMERCIAL ART

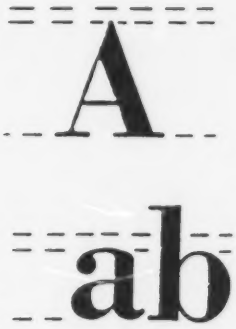
UNIT III: TYPE

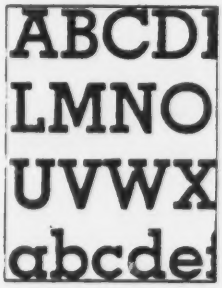
UNIT TEST

Match each of three styles of type pictured below with the letter describing it.

a. Roman old style
b. Sans serif
c. Roman modern
d. Script
e. Square serif







___ 1. ___ 2. ___ 3.

Select the option that answers the question or completes the statement.

___ 4. Which measurement is approximately equal to 1/6"?

a. Em
b. En
c. Pica
d. Point

___ 5. Which is a psychological characteristic of type?

a. Atmosphere
b. Posture
c. Size
d. Weight

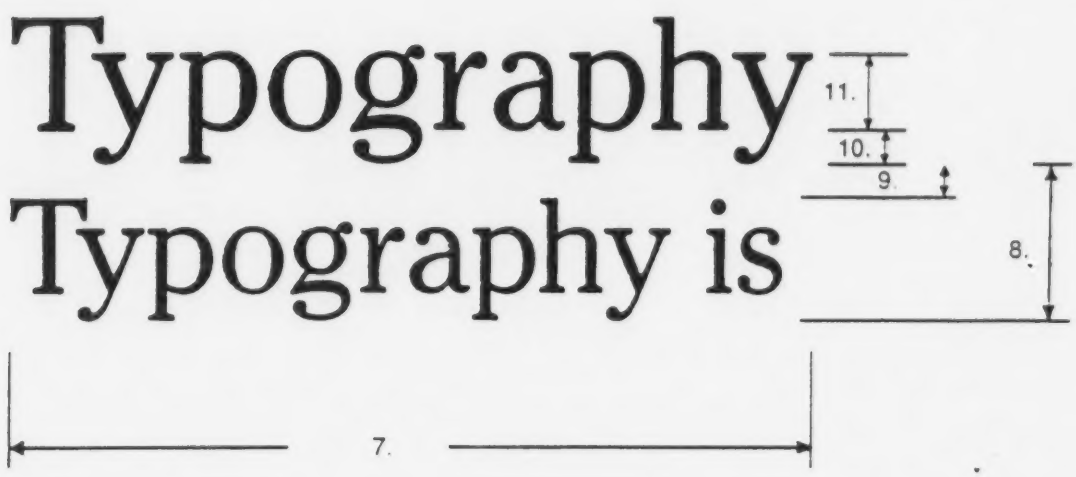
___ 6. Which is **not** a good guideline to follow?

a. Select two or three faces for use with a design.
b. Mix faces from similar styles.
c. Vary type family size, posture, and contrast for variety.
d. Use script or Old English styles in all caps.

Identify the illustration below with appropriate terms.

a.	Ascender	d.	Leading
b.	Baseline	e.	Set leading
c.	Descender	ab.	Set measure
		ac.	X-height

___ 7. ___ 8. ___ 9. ___ 10. ___ 11.



Write "a" if the statement is true; write "b" if it is false.

___ 12. Most copyfitting methods are based on exact numbers.

___ 13. The unit-count method is useless for such applications as repeating column heads and captions.

___ 14. The character-count method is less suitable for large quantities of copy and is more suitable for one or two lines.

Select the option that answers the question or completes the statement.

___ 15. Which best describes markup symbols?

a. Same as proofreaders' marks
b. In contrasting ink
c. In left-hand margin only
d. Clear to operator

___ 16. What does "9/11" mean to the typesetter?

a. Font 9/leading 11
b. Point 9/set leading 11
c. Point 9/line length 11
d. Font 9/line length 11

___ 17. How much of the point size should set leading be?

a. 105%
b. 110%
c. 120%
d. 125%

___ 18. Line length should be approximately how many times the point size?

a. 2.5
b. 4.5
c. 5
d. 6.5

___ 19. What kinds of type should never be set in all capitals?

a. Script/decorative
b. Script/Old English
c. Old English/decorative
d. Italic/bold

___ 20. How many ens wide should paragraph indention be for every eight picas of line length?

a. 1
b. 2
c. 3
d. 4

___ 21. Which style of copy results in uneven inter-word spacing?

a. Justified
b. Ragged right
c. Centered
d. Ragged left

ANSWERS TO UNIT TEST

1.	b	(R1)
2.	c	(R1)
3.	e	(R1)
4.	c	(R2)
5.	a	(R1)
6.	d	(R1)
7.	ab	(R1)
8.	e	(R1)
9.	d	(R1)
10.	c	(R1)
11.	ac	(R1)
12.	b	(R2)
13.	b	(R2)
14.	b	(R2)
15.	d	(R2)
16.	b	(R2)
17.	c	(R2)
18.	a	(R2)
19.	b	(R2)
20.	a	(R2)
21.	a	(R2)

MODULE: FUNDAMENTALS OF COMMERCIAL ART

UNIT IV: PROOFREADING AND CAMERA EQUIPMENT

UNIT OBJECTIVE

Upon completion of this unit, the student will use and interpret proofreading symbols. The student will also be able to discuss types of camera-ready copy and camera equipment. This knowledge will be evidenced by completion of the unit test to specified score.

SPECIFIC OBJECTIVES

After completion of the lessons in this unit, the student will be able to:

1.1 Use proofreader's marks to correct copy. (partial competencies L2, R2)

2.1 Define camera-related terms and definitions. (partial competencies A18, G5)

2.2 Discuss purposes and types of camera-ready copy. (partial competency G5)

2.3 Identify uses and parts of a 35mm camera. (competency A18)

MODULE: FUNDAMENTALS OF COMMERCIAL ART

UNIT IV: PROOFREADING AND CAMERA EQUIPMENT

CONTENTS OF THIS UNIT

A. Objective sheet

B. References

C. Notes to the instructor

D. Lesson plans

1. Lesson 1: PROOFREADING

   a. Information outline

2. Lesson 2: CAMERA EQUIPMENT

   a. Information outline

E. Unit test

F. Answers to unit test

REFERENCES

A. Books

1. Lou Jacobs, Jr. How to Take Great Pictures With Your SLR. Tucson, AZ: H.P. Books, 1974.

2. Upton, Barbara, and John Upton. Photography. (Adapted from the Life Library of Photography) Boston: Educational Associates, a Division of Little, Brown and Company, 1976.

B. Curriculum guides

1. Secretarial Technology/Office Technology. Vol. I. University of Missouri-Columbia: Instructional Materials Laboratory, 1986.

2. Farajollahi, Karim, et. al. Graphic Arts, Book II. Stillwater, OK: Mid-America Vocational Curriculum Consortium, 1981.

3. Hoisington, James, and Joseph Metcalf. Graphic Arts/Offset Lithography. University of Missouri-Columbia: Instructional Materials Laboratory, 1988.

NOTES TO THE INSTRUCTOR

A. Suggested approaches to teaching this unit

1. Evaluation of **competency A17** (Demonstrate proper use of individually selected equipment) is left to instructor discretion based on the individual classroom and lab. Some areas that may be included follow.

    a. Adjustable drawing table set-up

    b. Waxer maintenance

    c. Processor use and maintenance

    d. Copier use and maintenance

2. Take a field trip to a printer or graphic arts darkroom, if time permits.

B. Suggested student activities

1. Ask students to collect several kinds of copy. Discuss the ways each kind of copy can be treated (or was treated) to produce an effective pasteup.

C. Suggested supplemental materials

1. Publications

    a. Owner's manuals for equipment, such as 35mm cameras

2. Audiovisual

    a. Tipton, Robert. Proofreading (#5086). Pittsburgh, PA: The Graphic Arts Technical Foundation, 1977. 16 min. slide-tape. (4615 Forbes Ave., Pittsburgh, PA 15213-3796)

MODULE: FUNDAMENTALS OF COMMERCIAL ART

UNIT IV: PROOFREADING AND CAMERA EQUIPMENT

LESSON 1: PROOFREADING

NOTE: Anyone who proofreads must be very accurate, knowledgeable of type, and clear and concise with marks to communicate well with other workers and clients. In addition to spelling, proofreaders check hyphenation, spacing, punctuation, and size and style of type. More than a single proof is usually required.

I. **Use proofreader's marks to correct copy.**

A. Proofs must be marked legibly so the typesetter can easily read the correction. Standard proofreader's marks are used in the industry.

B. Using contrasting-color pens or pencils allow the typesetter to easily find corrections to be set. Proofreaders' marks should be large enough for easy recognition.

C. Learn these standard proofreaders' marks.

	Delete	Insert superscript	3
	Close up	Em dash	em
	Insert space	En dash	en
	Paragraph	Insert semicolon	;
	Indent one em	Insert colon	:
	Move to left	Insert period	⊙
	Move to right	Spell out (or abbreviate)	NO
	Lower	Transpose	
	Elevate	In this order	set 1,2,3
	Insert	Wrong font	wf
	Straighten	Set in bold face type	bf or ~~~
	Align type	Set in roman type	rom
	Insert comma	Set in italic type	ital or ____
	Insert apostrophe	Set in capitals (upper case)	caps or ≡
	Insert quotes	Set in small capitals	SC
	Insert subscript	Set in lower case	∅ or lc

stet Let it stand

(#) End of copy

(DS) Double space

(SS) Single space

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MODULE: FUNDAMENTALS OF COMMERCIAL ART

UNIT IV: PROOFREADING AND CAMERA EQUIPMENT

LESSON 2: CAMERA EQUIPMENT

NOTE: General knowledge of purposes, procedures, tools, materials and equipment is important in the introduction of pasteup.

I. **Define camera-related terms and definitions.**

A. Camera-ready copy--that which is ready to be photographed

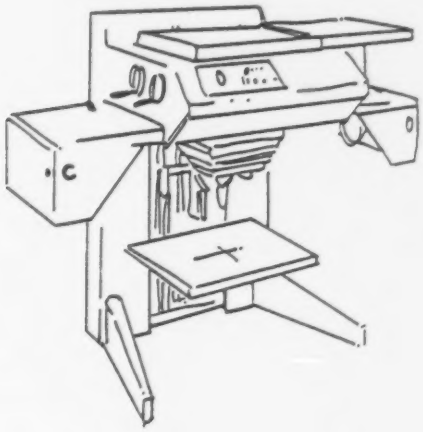
B. Crop--to mark an illustration or photograph to indicate what portion of it is to be copied

C. Hand-cut ruby film--masking material which is a separable two-ply acetate film; usually ruby-red film adhered to a clear film base

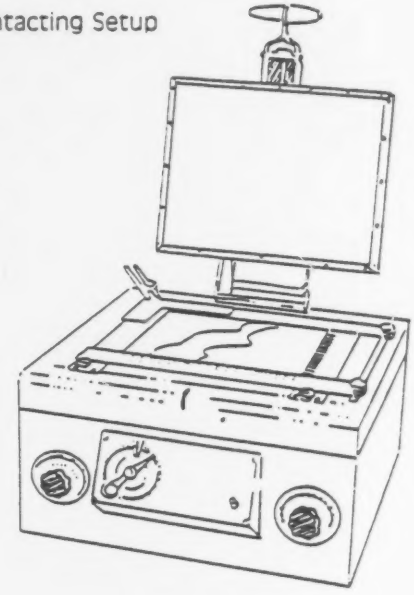
D. Keyline art--artwork that is prepared for multi-color printing in which the colors overlap slightly

E. Line copy--image lines and areas of a single density (i.e., black or white)

Vertical Camera



Contacting Setup



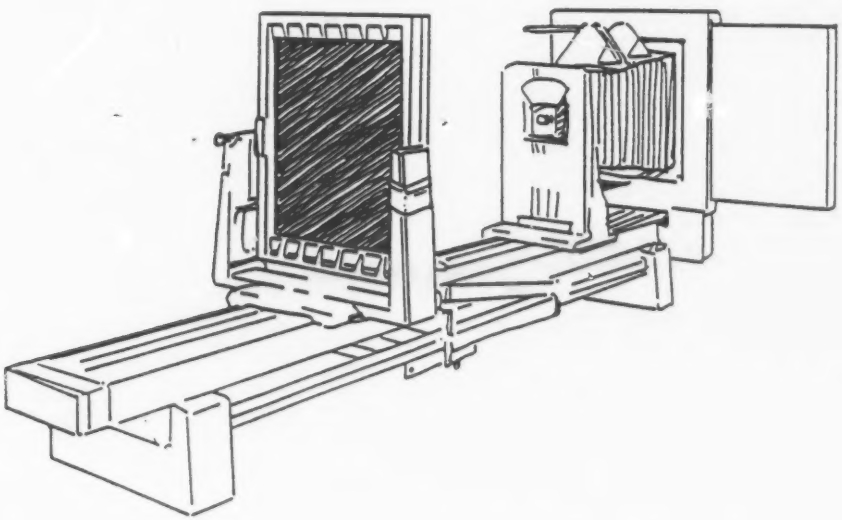
F. Pasteup (noun)--completed assembly of all image areas or elements positioned on a base sheet to be used as the camera copy. Mechanical art is another term for pasteup.

G. Pasteup (verb)--process used to assemble all image areas or elements on a base sheet in the desired position for the finished product

H. Photostat ("stat")--photographic, high-quality copy of artwork or copy; usually made with a process camera, photographic paper and processor

I. Process camera--large, stationary darkroom camera used to make high-quality copies and negatives (for platemaking)

Horizontal Camera



J. Reverse--print made of copy in which the colors are the opposite of the original

K. Scaling--"sizing" artwork; determines proportional dimensions of artwork or photographs when reduced or enlarged

L. Surprint--overprint in which line copy is superimposed over a halftone

M. Windows--transparent openings in line negatives into which halftone negatives are stripped

II. **Discuss purposes and types of camera-ready copy.**

A. Purposes of camera-ready copy

1. Organize all elements of the job on one or more base sheets

2. Easier to position elements that are positive prints rather than small pieces of film

3. Provides method to register multi-color work **before** it is photographed

4. Provides a way to see the job and compare to layout before photographing

B. Line copy

1. Type

a. Display and text type from a laser printer or phototypesetting machine in the form of a photographic print

b. Free-hand lettering

c. Lettering machine product

d. Clip art lettering

e. Transfer or rub-down lettering

f. Strike-on (typewriter) composition

g. Reproduction proofs ("repros") of hot metal or relief-type

2. Illustrations

a. Line drawings

b. Clip art designs and drawing

c. Pre-screened photos and art

3. Other pasteup (camera) line copy

a. Border and ruling tapes

b. Pen and ink rulings

c. Transfer screen tints and shadings

C. Halftone copy from which halftones must be shot (See Units V and VI.)

1. Photographs

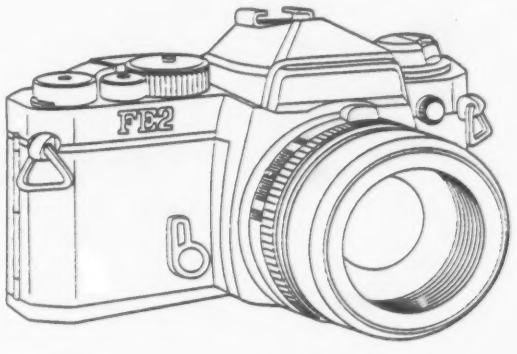
2. Paintings

3. Wash and pencil drawings

4. Airbrush renderings

III. **Identify uses and parts of a 35mm camera.**

NOTE: For this unit, only single-lens reflex cameras (with interchangeable lenses) will be discussed. "Instamatic" types of 35mm cameras are more limited in application.



A. Usefulness

1. Gives better-quality photo enlargements than those from a 126 or 110 format camera because of increased film size

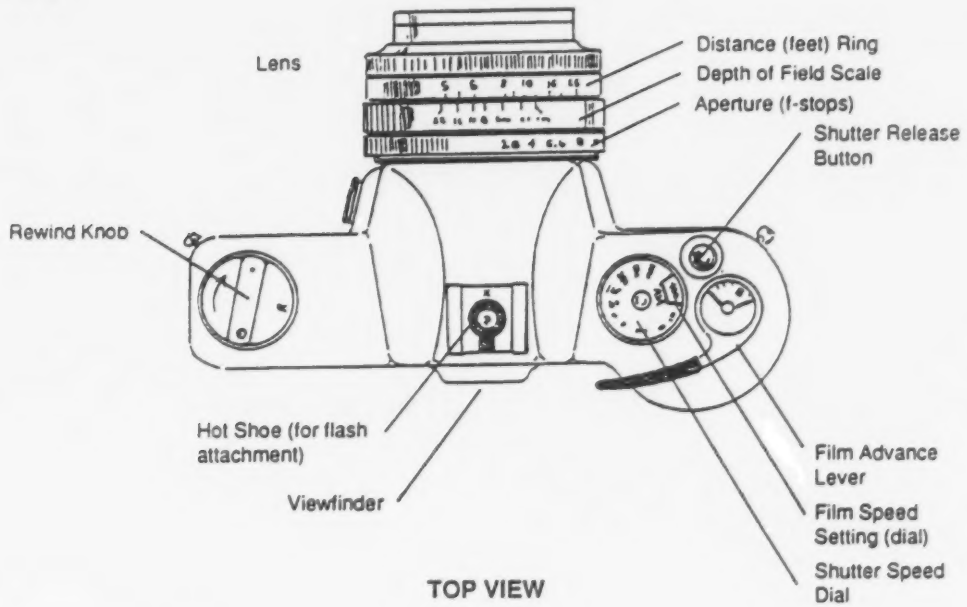
2. Interchangeable lenses

3. Through-the-lens composition and focusing

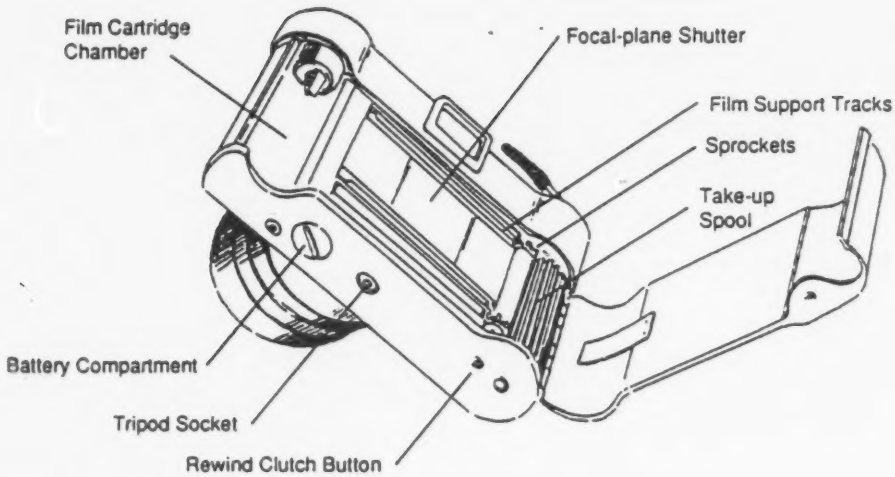
4. Good availability and useful life span

5. Less expensive than larger-format cameras, such as 2.5" x 2.75" or 4" x 5"

B. Parts



TOP VIEW



BOTTOM AND BACK VIEW

C. Do's and don'ts

1. Keep the camera and film out of extreme conditions whenever possible (very dusty, cold or hot situations).
2. Clean lenses **only** with lens tissue or special brushes.
3. Don't touch mirrors or the focal-plane shutter (inside the back of the camera).
4. Protect camera equipment from bumping or dropping.
5. Don't change film in direct sunlight.

MODULE: FUNDAMENTALS OF COMMERCIAL ART

UNIT IV: PROOFREADING AND CAMERA EQUIPMENT

UNIT TEST

Match the following proofreaders' marks with their meanings.

___	1.	a.	Close up
___	2.	b.	Delete
___	3.	c.	Insert quotes
___	4.	d.	Insert comma
___	5.	e.	Insert space
___	6.	ab.	Lower-case letter
___	7.	ac.	New paragraph
		ad.	Set in italic type
		ae.	Set in bold type
		bc.	Transpose

Identify true statements with an "a" and false ones with a "b".

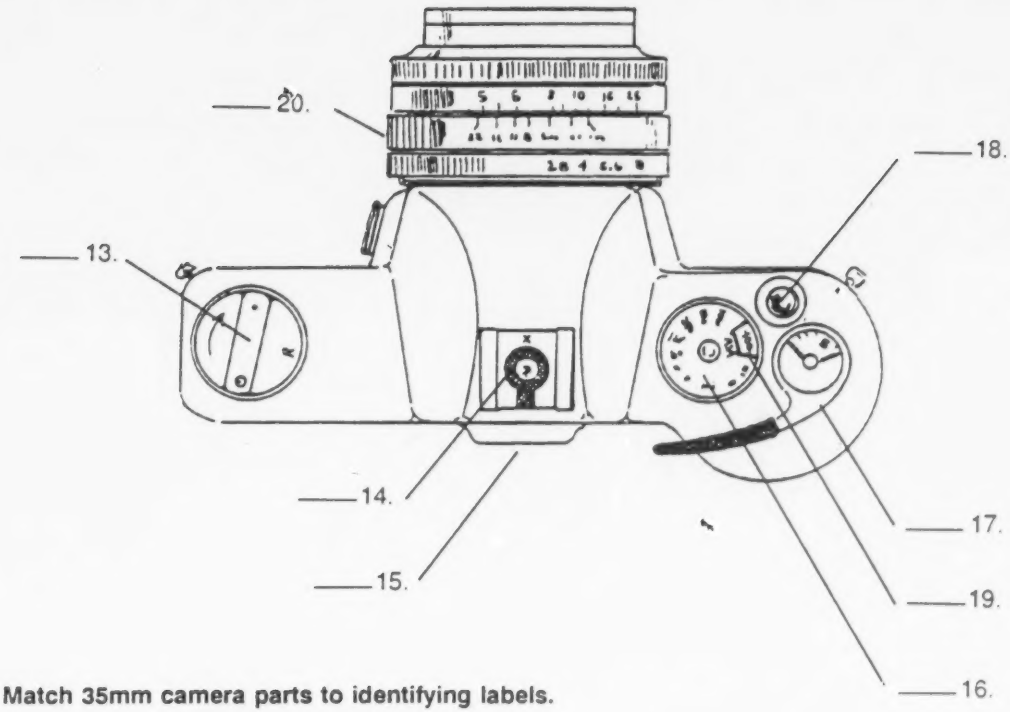
___ 8. A black pen is used to mark proofs.

___ 9. Mechanical art is another term for pasteup.

___ 10. Transfer screen tints and shadings are examples of halftone copy.

___ 11. Process cameras are available in horizontal, vertical and portable models.

___ 12. Keyline art describes art in which the colors overlap slightly.



Match 35mm camera parts to identifying labels.

a.	Aperture (f-stops)	ac.	Lens
b.	Battery compartment	ad.	Rewind knob
c.	Film advance	ae.	Shutter speed dial
d.	Film speed setting	bc.	Shutter release
e.	Focal-plane shutter	bd.	Tripod socket
ab.	Hot shoe	be.	Viewfinder

ANSWERS TO UNIT TEST

1.	ac	(L2, R2)
2.	bc	(L2, R2)
3.	d	(L2, R2)
4.	b	(L2, R2)
5.	ab	(L2, R2)
6.	ae	(L2, R2)
7.	a	(L2, R2)
8.	b	(L2, R2)
9.	a	(G5)
10.	b	(G5)
11.	b	(A18)
12.	a	(G2)
13.	ad	(A18)
14.	ab	(A18)
15.	be	(A18)
16.	ae	(A18)
17.	c	(A18)
18.	bc	(A18)
19.	d	(A18)
20.	a	(A18)

MODULE: FUNDAMENTALS OF COMMERCIAL ART

UNIT V: PHOTOS IN A LAYOUT

UNIT OBJECTIVE

Upon completion of this unit, the student will crop and scale photos and produce art with type, photos and overlays. This knowledge will be evidenced by completion of the unit test and job sheets to specified score.

SPECIFIC OBJECTIVES

After completion of the lesson in this unit, the student will be able to:

1.1 Describe purposes and methods related to cropping photos. (competency G8)

1.2 Describe types and uses of cut-and-peel film.

1.3 Prepare windows for halftones. (competency G5, JS 1.1)

1.4 Make keyline art. (competencies G2 and G5, JS 1.3)

1.5 Make a dropout. (competency G3, JS 1.1)

1.6 Scale copy and crop photos. (competency G8 and partial L2, JS 1.2)

MODULE: FUNDAMENTALS OF COMMERCIAL ART

UNIT V: PHOTOS IN A LAYOUT

CONTENTS OF THIS UNIT

A. Objective sheet

B. References

C. Notes to the instructor

D. Lesson plan

1. Lesson 1: PHOTOS AND OVERLAYS

   a. Information outline

   b. Transparency master

      TM 1.1: Making windows for halftones

   c. Handout

      HO 1.1: Cropping a photograph

   d. Job sheets

      JS 1.1: Use hand-cut ruby or amber film
      JS 1.2: Scale copy and crop photos
      JS 1.3: Make keyline art

E. Unit test

F. Answers to unit test

REFERENCES

A. Curriculum guides

1. Hoisington, James, and Joseph Metcalf. Graphic Arts/Offset Lithography. University of Missouri-Columbia: Instructional Materials Laboratory, 1988.

2. Farajollahi, Karim, et. al. Graphic Arts Book I. Stillwater, OK: Mid-America Vocational Curriculum Consortium, 1981.

NOTES TO THE INSTRUCTOR

A. Suggested approaches to teaching this unit

1. Students should do well on the unit test **before** performing job sheets.

2. Making a dropout or a keyline are effective instructor demonstrations or good exercises for students completing darkroom training.

B. Suggested supplemental materials

1. Rough, layout and finished job examples (instructor furnished)

2. How to Prepare a Mechanical (T&I filmstrip #8 or still video #101). Insight: Graphics 2. Pleasantville, NY: Son-A-Vision Inc., 1979. 13 min. (Available for loan from Missouri Vocational Resource Center, phone 800/392-7217 or 314/882-9610)

MODULE: FUNDAMENTALS OF COMMERCIAL ART

UNIT V: PHOTOS IN A LAYOUT

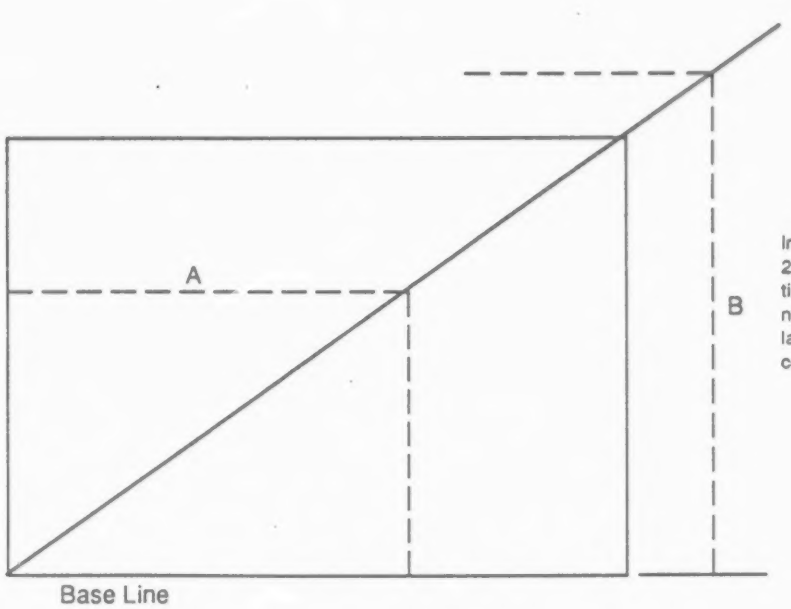
LESSON 1: PHOTOS AND OVERLAYS

I. **Describe purposes and methods related to cropping photos. (HO 1.1)**

A. Cropping photographs eliminates unnecessary portions of the picture. It is used to improve or emphasize the desired portion of the picture.

B. The **proportional scale method** is a tool-assisted method of determining percent of enlargement or reduction by lining up the original's size on the inner circle of a proportion wheel with the desired size on the outer circle of the proportion wheel.

C. The **diagonal line method** is a graphic method of determining dimensions of a desired enlargement or reduction by using baselines, diagonals and intersecting points drawn on a mock-up of the original or tissue overlay.



In this example, original copy is 4" x 2.75". Line A shows a height reduction to 1.75" and a corresponding new width. Line B shows an enlargement of width to 4.75" and a corresponding new height.

D. The **mathematical method** determines percent of copy reduction or enlargement using the following formula.

$$\frac{\text{reproduction size}}{\text{copy size}} \times 100 = \%\text{ of enlargement/reduction}$$

E. In the **ratio-and-proportion** method, the original size and one of the desired reproduction sizes are known, then the other desired size is calculated.

Example: $\frac{2"}{3"} = \frac{3.5"}{x}$ where 2" = original width, 3" = original height, 3.5" = desired width and x = unknown height

Cross-multiply, then divide by the remaining number. (3 x 3.5 = 10.5 / 2 = 5.25) Proportionally, 3.5" x 5.25" is the same as 2" x 3".

F. Photos should be handled carefully--enclosed in an envelope, away from paper clips, writing on back limited to non-ballpoint pens. Include the following with each photo.

1. Percentage of reproduction
2. Photo's position in the layout
3. Crop marks

II. **Describe types and uses of cut-and-peel film.**

A. Hand-cut films are available both in a deep red color called "ruby" and a dark orange color called "amber"; they are known as hand-cut, cut-and-peel, ruby stripping film, etc.

B. These films are used to eliminate unwanted portions of a photo or illustration without damaging the original.

C. Since these films reproduce as black when photographed, the result is a clear area on the film negative.

D. This material, as with many other items used in graphic arts, is often called by a popular trade name. Amberlith and Rubylith are registered trademarks of the Ulano Corp.

E. Amber cut-and-peel film is easier to use on artwork for overlays and windows because it is easier to see through for aligning with keylines, etc.

F. Amber will reflect process camera light the same as ruby and will leave a clear window on ortho film.

NOTE: For purposes of this unit on paste-up, "ruby" and "amber" can be used interchangeably.

III. **Prepare windows for halftones. (TM 1.1)**

A. Advantages of cut-and-peel film over other masking methods

1. Amber cut-and-peel film provides an accurate method of preparing windows for halftone negatives, particularly when line and halftone work is close together.
2. Amber film preparation of windows in a row or group are neater and more accurate than those using paste-up windows.

B. Procedure

1. Using T-square, place illustration board on layout table and tape in place. With light blue pencil, mark location of photographs and guidelines on the illustration board.
2. On trim board, cut a piece of ruby film to the same size as illustration board.

3. Place ruby film, clear base side down, over illustration board and tape in place along top edge. Using T-square, triangle and stripping knife, carefully cut locations of photographs in the ruby film.

   CAUTION: Again, use extreme care to avoid cutting through film base. Practice cuts are recommended.

4. Peel away all areas of ruby film except where photos are to appear.

5. Check all windows on ruby film for squareness and proper location.

   NOTE: Red lithographer's tape can be used as patches for small mis-cuts or slips if it is done neatly and accurately.

6. Paste line copy on board so both windows and line copy can be photographed as one exposure; or if desired, windows may be exposed to second negative and merged with line work using the complementary flat method.

   a. Separate flats may be necessary when line copy and photographs are very close together.

   b. In this case, halftones are stripped into the windows on one flat, and line copy is stripped onto another flat. Then, an exposure is made of each flat to the same plate.

7. Turn in for evaluation. On the job, the next step is to shoot negatives (line and halftone) and then to strip halftone negatives behind the clear windows of the line negative.

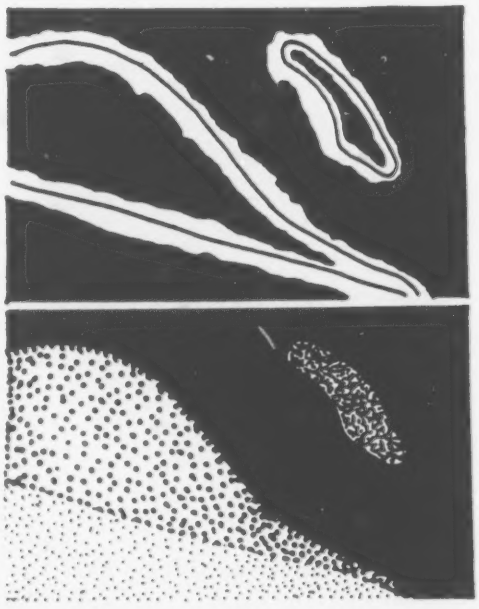
IV. **Make keyline art.**

A. Uses

1. Recall that keyline art is prepared for multi-color printing in which the colors overlap slightly.

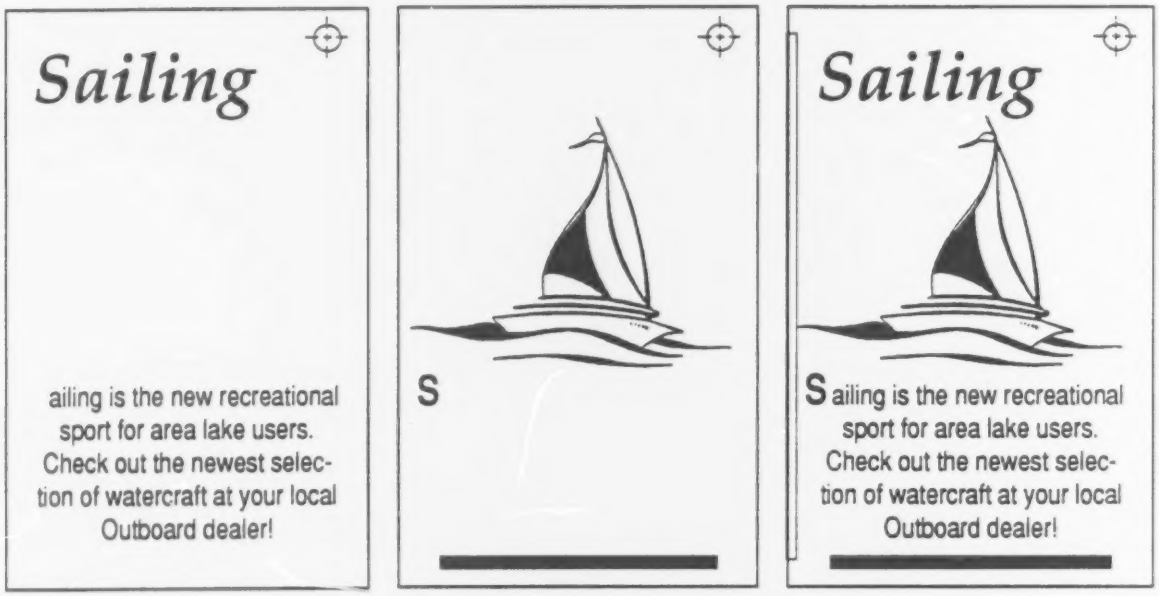
2. Keylining around type tells the platemaker to surprint the type onto the color background.

3. It is virtually impossible to provide hairline register by free-hand drawing. In this case, an outline of each color area is drawn with a single line (where they touch). Each area is then opaqued (inked) up to about 1/8" of the line and finished with a wavy edge. This wavy edge signals the platemaker to complete each color negative by using duplicate negatives and masking unwanted areas.



Keylining for hairline register (before and after)

4. Prepare a separate ruby film overlay for areas or colors that are close together or overlay.


Sailing
ailing is the new recreational sport for area lake users. Check out the newest selection of watercraft at your local Outboard dealer!
S
Sailing
Sailing is the new recreational sport for area lake users. Check out the newest selection of watercraft at your local Outboard dealer!

Keyline art

B. Tissue overlay

1. A tissue overlay can be marked to indicate color areas and reverses or surprinting.

2. This overlay should include final instructions on how the job is to be printed (reverses, surprints, color swatches).

V. **Make a dropout.**

A. Purposes

1. A dropout eliminates portions of the photo or illustration without damaging the original copy.

2. This method can accurately achieve detailed dropouts.

B. Procedure

1. Key original artwork for colors; include register marks.

2. On trim board, cut a piece of ruby film to roughly the same size as photograph or illustration to be used. Place ruby film, clear base side down, over photo and tape in place along top edge. Align register marks with those on original artwork.

3. Using drafting or stripping knife, carefully outline area that is to be dropped out.

CAUTION: Use extreme care to avoid cutting through ruby film base and damaging photo or illustration. A few practice cuts on ruby film scraps would be helpful in avoiding this type of mistake.

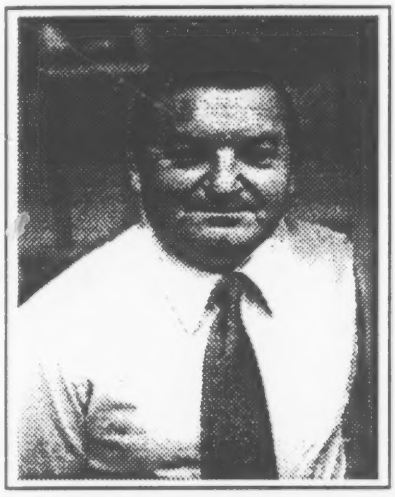
4. Carefully peel away the portion of the ruby film from the area of the photo that will be printed.

5. Check work for accuracy by comparing the mechanical against the comprehensive. Turn in for evaluation.

MAKING WINDOWS FOR HALFTONES

Create a Window f
Halftone Pho

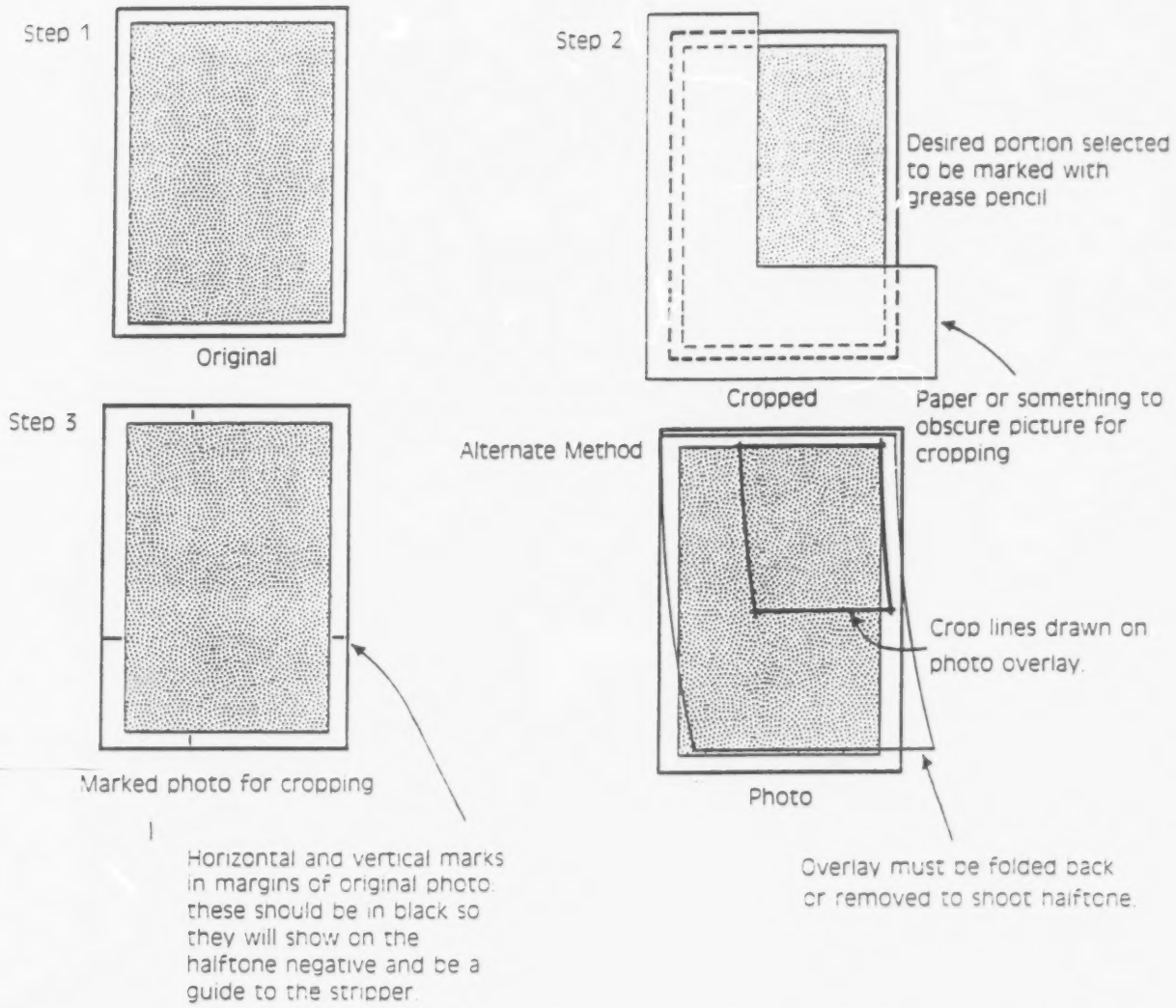
Using a T-square, place illustr
on layout table and tape in
light blue pencil, mark locati
graphs on the illlustration b
piece of ruby film to the sam
illustration board.



Create a Window for Your Halftone Photo

Using a T-square, place illustration board on layout table and tape in place. With light blue pencil, mark location of photographs on the illlustration board. Cut a piece of ruby film to the same size as the illustration board.

CROPPING A PHOTOGRAPH


Step 1
Original
Step 2
Desired portion selected to be marked with grease pencil
Cropped
Paper or something to obscure picture for cropping
Step 3
Marked photo for cropping
Horizontal and vertical marks in margins of original photo. these should be in black so they will show on the halftone negative and be a guide to the stripper.
Alternate Method
Crop lines drawn on photo overlay.
Photo
Overlay must be folded back or removed to shoot halftone.

Alternate Method: Steps 2 and 3 may be eliminated by taping a tissue overlay over the photo and marking the desired position of the photo on the overlay.

NOTE: Care must be taken when drawing on the tissue to avoid excessive pressure on the pencil which may dent the photo. These dents will show on halftones shot from this photo.

USE HAND-CUT RUBY OR AMBER FILM

Equipment:

Artwork (photograph or illustration)
Ruby or amber film
Trim board
Stripping or drafting knife
Layout table
T-square
Triangle
Light blue pencil
Red lithographer's tape

Procedure:	Evaluation 3	2	1	N
1. Make a dropout. Tape ruby film over artwork. With the stripping knife, carefully outline the area that is to be dropped out and peel away film from the part of the photo to be reproduced.	—	—	—	—
2. Check work for accuracy, then ask instructor to evaluate it.	—	—	—	—
3. Make windows for halftones. Using T-square, place illustration board on layout table and tape in place. With light blue pencil, mark location of photographs on the illustration board.	—	—	—	—
4. On trim board, cut a piece of ruby film to the same size as illustration board. Place ruby film, clear base side down, over illustration board and tape in place along top edge. Using T-square, triangle and knife, carefully cut locations of photographs in the ruby film.	—	—	—	—
5. Peel away all areas or ruby film except that which will be printed as photographs. Check all "windows" on ruby film for squareness and proper location. Turn in for evaluation.	—	—	—	—
Average of above evaluations*	—	—	—	—

*This average is the student's final evaluation for competency G3 and partial for G5.

SCALE COPY AND CROP PHOTOS

Equipment:

Paper or tissue
Proportional scale
Ruler
Paper strips
T-square
Pencil
Marking pencil (for photographs)
Artwork (photograph, illustration and copy)

Procedure:	Evaluation 3	2	1	N
1. Use the proportional scale method to scale copy.	—	—	—	—
a. Measure copy and available space.				
b. Find width of original copy on inner circle of proportional scale.				
c. Line up width of original with size wanted on outer circle.				
d. Read the reduction or enlargement percentage in window.				
e. Repeat this operation for height.				
2. Use diagonal line method to scale copy (or artwork).	—	—	—	—
a. Draw rectangle or square on paper same size as original copy or lightly on tissue covering copy.				
b. Draw diagonal line through corners.				
c. Measure desired width of scaled copy on base line.				
d. From this point, extend line upward until it crosses diagonal line.				
e. Point of intersection will be new height of scaled copy.				
3. Crop a photo.	—	—	—	—
a. Place something, such as strips of paper, around edges of picture and move until only that portion desired shows.				
b. Using T-square and marking pencil, mark two sets of horizontal lines in the side margins of the photo to show desired area.				
c. Mark two sets of vertical lines in the top and bottom margins of photo, showing desired area.				

NOTE: An alternate method involves taping a tissue over the photo and marking desired position of photo on the overlay.

4. Crop a photo to fit a specified space. (Ask the instructor for an appropriate, proportional size to crop your photo.) — — — —

   a. Decide on the most critical dimension of the photo--either width or height.
   b. Use the proportion wheel to determine percentage of reduction for the chosen dimension.
   c. Find the photo's other original dimension by reading the number across from its reduction or enlargement size.

   NOTE: Several tries may be necessary before the best combination of height and width is found.

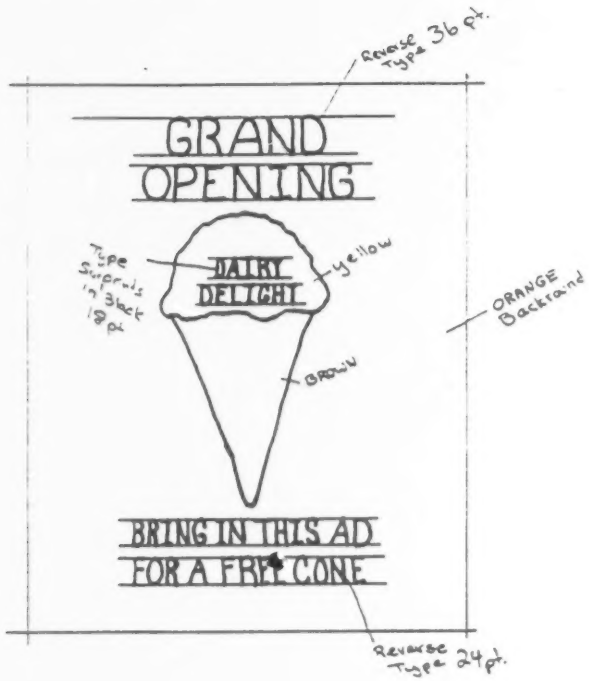
Average of above evaluations* — — — —

*This average is the student's final evaluation for competency G8 and partial evaluation for L2.

MAKE KEYLINE ART

Equipment:

Artwork (see sketch)
Ruby or amber film
Overlay tissue
Trim board
Stripping or drafting knife
Layout table
T-square
Triangle
Light blue pencil
Colored pencils
Red lithographer's tape



Procedure:	Evaluation 3	2	1	N
1. Set type and create base art for a coupon that is 4.5" x 5.5". Orange background should extend all the way to the edge of the image area.	—	—	—	—
2. Keyline an overlay for the orange background and type. Indicate surprinting and reverses.	—	—	—	—
3. Use the knife to carefully outline areas that are to be printed in separate colors. Peel away all areas of ruby film **except** that which is to be a separate color.	—	—	—	—
NOTE: Prepare a separate ruby film overlay for each area or color desired. Colors that do not touch can be indicated on the same overlay to save time and materials.				
4. Indicate all necessary information on tissue overlay.	—	—	—	—
5. Check work for accuracy and cleanliness, then turn in for evaluation.	—	—	—	—
Average of above evaluations*	—	—	—	—

*This average is the student's final evaluation for competencies G2 and G5.

MODULE: FUNDAMENTALS OF COMMERCIAL ART

UNIT V: PHOTOS IN A LAYOUT

UNIT TEST

Identify true statements with an "a" and false ones with a "b".

___ 1. Use of ruby film is an inaccurate method of preparing windows for halftone negatives.

___ 2. Amber film eliminates unwanted portions of a photo or illustration without damaging original copy.

___ 3. When photographed, ruby film reproduces as black, resulting in a clear area on the film negative.

___ 4. Check the mechanical against the comprehensive layout.

___ 5. Register marks are optional when creating dropouts.

Select the option which answers the question or completes the statement.

___ 6. What is the reduction percentage for artwork sized from 4" wide to 3" wide?

a. 85%
b. 75%
c. 60%
d. 50%

___ 7. How much would artwork that is 3" x 4" be enlarged to fit an area 5.25" x 7"?

a. 125%
b. 137%
c. 150%
d. 175%

___ 8. What kind of tape can be used as a patch for small mis-cuts or slips in ruby film?

a. Clear
b. Double-stick
c. Masking
d. Lithographer's

___ 9. What is used to indicate that a hairline register between two colors should be completed by the platemaker?

a. Bold line
b. Wavy edge
c. Thin line
d. Amber film

ANSWERS TO UNIT TEST

1. b (G5)
2. b (G8)
3. a (G5)
4. a (G2, 3, 5, 8)
5. b (G3)
6. b (G8, L2)
7. d (G8, L2)
8. d (G5)
9. b (G2)

MODULE: FUNDAMENTALS OF COMMERCIAL ART

UNIT VI: COLOR SEPARATIONS AND PRINTER SPECS

UNIT OBJECTIVE

Upon completion of this unit, the student will produce mechanical color separations, screen tint art and printer specs. This knowledge will be evidenced by completion of the unit test and job sheet to specified score.

SPECIFIC OBJECTIVES

After completion of the lesson in this unit, the student will be able to:

1.1 Define terms and definitions.

1.2 Describe the use of register marks. (competencies G4, partial L2)

1.3 Produce art using screen tints and shading films. (competency G6)

1.4 Discuss color applications in graphic arts. (competency G4)

1.5 Identify printer specs. (partial competency G7)

1.6 Create art with three-color overlays. (competencies G4 and G6, JS 1.1)

1.7 Mark up color on a comprehensive. (competencies G4 and G7, JS 1.2)

MODULE: FUNDAMENTALS OF COMMERCIAL ART

UNIT VI: COLOR SEPARATIONS AND PRINTER SPECS

CONTENTS OF THIS UNIT

A. Objective sheet

B. References

C. Notes to the instructor

D. Lesson plan

1. Lesson 1: COLOR SEPARATIONS AND PRINTER SPECS

   a. Information outline

   b. Handout

      HO 1.1: Pantone-to-process conversion approximations

   c. Job sheets

      JS 1.1: Create art with three-color overlays
      JS 1.2: Mark up color on a comprehensive

E. Unit test

F. Answers to unit test

REFERENCES

A. Book

1. Walker, John R. Graphic Arts Fundamentals. South Holland, IL: The Goodheart-Willcox Company, Inc., 1980.

B. Curriculum guide

1. Hoisington, James, and Joseph Metcalf. Graphic Arts/Offset Lithography. University of Missouri-Columbia: Instructional Materials Laboratory, 1988.

NOTES TO THE INSTRUCTOR

A. Suggested approaches to teaching this unit

1. For final evaluation of **competency G7:** Produce printer specs, the instructor may critique JS 1.2's project for printer readiness or wait until projects in Module 2 (Layout and Design) have been completed.

B. Suggested supplemental materials

1. Graphic arts supply catalogs

2. PMS (Pantone Matching System) color chart

3. Printing Basics for Non-Printers I: An Abridged Guide to Printing Fundamentals (T&I video #98). Peoria, IL: Step-by-Step Video, 1988. 45 min. (Available for loan from Missouri Vocational Resource Center, phone 800/392-7217 or 314/882-9610)

4. Pocket Pal: A Graphic Arts Production Handbook. 14th ed. Memphis, TN: International Paper Co., 1989.

MODULE: FUNDAMENTALS OF COMMERCIAL ART

UNIT VI: COLOR SEPARATIONS AND PRINTER SPECS

LESSON 1: COLOR SEPARATIONS AND PRINTER SPECS

I. **Define terms and definitions.**

A. Bleed--an image that is designed to run off the edge of the sheet when printed or trimmed

B. Non-bleed--image that is contained within the page's finished cut size

C. Color swatch--small example of color which is attached to the camera-ready art to indicate the color to be matched in printing ink

D. Cyan--one of the four process ink colors; also called process blue

E. Drop-out--process which indicates that certain areas of a photo or illustration are to be left blank, especially colored lines or backgrounds

F. Flat (spot) color--pre-mixed ink color

G. Four-color process--method of reproducing full-color, camera-ready copy by separating it into black and three primary colors (red, yellow, blue) and then using four printing plates and transparent inks to achieve the full-color effect

H. Information overlay--sheet of paper, usually tissue, that covers and protects the art; contains any necessary printer information not included on the camera-ready art (such as ink colors and screen tint percentages)

I. Magenta--one of the four process ink colors; also called process red

J. Mechanical--assembly of image areas on a base sheet; camera-ready pasteup

K. Overlay--sheet of acetate, tracing paper or similar material placed over a pasteup to hold copy that will appear in another color or for special instructions on the job

L. Process colors--black, yellow, cyan, magenta

M. Register marks--small crosses or other marks placed on camera-ready copy to register (align) overlays

N. Screen tints--negative films used between the negative and printing plate. Ruled screens are measured by the number of dotted lines per inch (i.e. 85-line), and the amount of image allowed to print is determined by the screen's percentage. (A 10% screen prints only 10% of the image.)

O. Shading films--sheets of preprinted patterns and tones used to add depth or special characteristics to base art

P. Varnish--a thin, clear, protective coating applied to a printed piece for extra polish; it can be applied to matte or glossy stock.

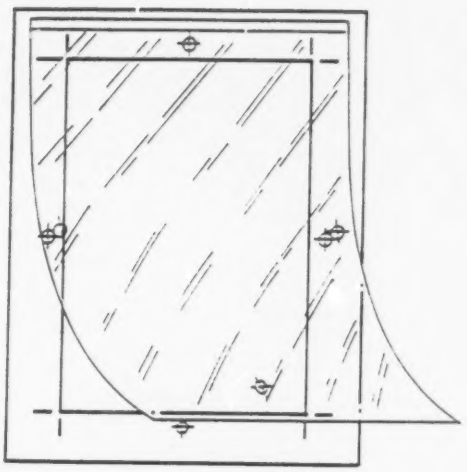
II. **Describe the use of register marks.**

A. These small bull's eye-like patterns can be placed on artwork to help position film negatives in the stripping process. Each negative is aligned with another using these guides. They are available in transparent and opaque positive form on pressure-sensitive tape.

B. Register marks can be placed on overlays of pasteups as duplicates on which to align copy, or they can be used on pasteup boards.

1. The film cut for an overlay must be large enough to cover the image area on the base art plus the register marks.

2. Placement of these marks depends somewhat on shop practice. Many camera operators prefer to have marks on the base art only and pick up those marks when shooting the overlay flap. The type of job and its complexity dictates this practice.



Registration mark use on a pasteup with overlay

NOTE: When using overlays, never hinge two overlays on the same side of the base art. (The end product will be distorted and out of register.)

III. **Produce art using screen tints and shading films.**

A. Screen tints are available as a negative film. They are used between the printing plate and negative while exposing the plate.

B. Screen tints are used to create halftones from photos and for special effect backgrounds.

C. Shading films are available in a great variety of patterns and densities. (Refer to a graphic arts supply catalog.)

D. Shading films are easy and clean to use. They can be attached directly to original artwork or placed on an overlay.

1. Lay the film over the desired area of art; smooth it down.

2. Use a sharp knife to cut carefully along the outline of the area being shaded.

3. Strip away excess film.

4. Place a piece of tissue over the area, then burnish it well.

IV. **Discuss color applications in graphic arts.**

A. Color is used frequently to communicate emphasis, contrast, impact and identification.

B. In the basic color wheel, the primary colors are red, yellow and blue.

1. Overlays using the three primary colors can be combined to create secondary colors.

2. Combining primary colors (red + yellow) creates secondary colors (orange).

3. White light is composed of three colors--red, green and blue.

C. Colors in paper and ink blend differently than those in white light.

1. Resulting printed colors are muddy if using regular red, yellow and blue.

2. Full-color printing is achieved by using **cyan, magenta and yellow.**

3. For tone control, black is added.

NOTE: Full-color comprehensive layouts will be discussed in more detail in Module 2: Layout and Design.

D. Mechanical color separation and keylining are similar in that both are used with multi-color jobs and both require precise work.

E. They differ in the number of pieces of art. Keylining is done on **one** piece of art, whereas mechanical separations require two or more pieces of art that are in register with the base art. With overlays, the production artist does all the work; in keyline art, the platemaker does the finishing work.

V. **Identify printer specs.**

A. Job's make-up considerations

1. Size and number of pages

2. Quantity needed

3. Number of colors to be used

4. Type of copy (camera-ready vs. roughs, number of photos and/or illustrations)

NOTE: On camera-ready art, all trim, center and folding marks should be clearly marked with black ink outside the image area. Bleed photos or illustrations should extend off the page.

5. Paper stock type, weight and grade

6. Cover type

7. Folds, binding and other finishing

8. Inserts, postage and/or envelope considerations

B. Printer instructions/expectations

1. Quality level needed

2. Schedules for proofs and delivery

3. Illustration handling

4. Packaging

C. Pantone (flat) color vs. process color **(HO 1.1)**

1. **Pantone (or flat)** inks are pre-mixed from basic colors. Flat color may be used as a solid color, a tint screen or a combination of a solid with a tint screen of a second color. Spot colors are often used for letterheads and business cards.

2. Artists use a color selection guide to select the color by hue and corresponding number. After approval by the client, the artist will indicate the selected color by writing the PMS (Pantone Matching System) number on the comprehensive, using markers on the tissue information overlay and attaching a swatch ink sample on the artwork margin (lower right corner).

3. The printer uses a chart as a guide for mixing the color, and the swatch is used to match the ink on the printed job. Pantone colors are more opaque than process colors, so overlaying/combining two or more Pantone colors by screen tints will often yield unpredictable results.

4. **Process** colors are transparent inks that print over one another and mix on the paper to create a wide variety of colors. Process colors are:

   a. Black
   b. Yellow
   c. Cyan (blue)
   d. Magenta (red)

5. These four inks are used together to reproduce full-color photographs and illustrations. Flat areas of process color are usually indicated on the art as solids or tints from 10%-90%. A combination of process color tints can approximate a spot or premixed color.

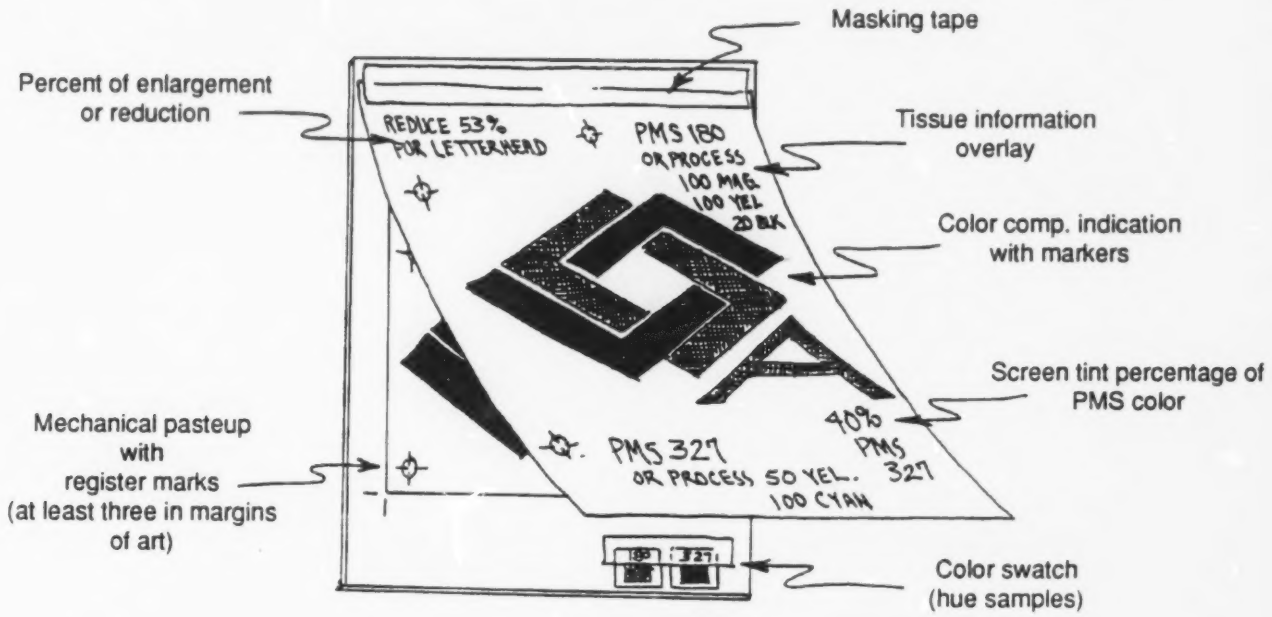
6. Charts, like HO 1.1 and parts of various computer programs (e.g. "Freehand"), indicate hue, value and intensity according to the screen tint percentage of each process color. Many magazines or other publications only use process colors, so many logos or art that normally use Pantone colors will have to be converted to process screen tint percentages if printed in these publications.

7. **Color** is often indicated with markers on an overlay. Sometimes, the comprehensive becomes separated from the mechanical, so it is important to clearly indicate color on an information overlay of the mechanical. Writing this information on the comprehensive

is not desirable because it unnecessarily "clutters" the design and may be accidentally included in the preparation of the final artwork. It may be included as an information overlay on the comprehensive.

8. Specialty inks, such as metallic inks, should be printed on coated paper. Otherwise, the ink is absorbed into the paper and the effect is lost.

9. Fluorescent inks are intensely pigmented inks that reflect high amounts of ultraviolet light.


Masking tape
Percent of enlargement or reduction
REDUCE 53% FOR LETTERHEAD
PMS 180 OR PROCESS 100 MAG. 100 YEL 20 BLK
Tissue information overlay
Color comp. indication with markers
Screen tint percentage of PMS color
40% PMS 327
PMS 327 OR PROCESS 50 YEL. 100 CYAN
Mechanical pasteup with register marks (at least three in margins of art)
Color swatch (hue samples)

PANTONE-TO-PROCESS CONVERSION APPROXIMATIONS

NOTE: S = 100% (solid ink coverage), Y = yellow, R = red (magenta), B = blue (cyan), BK = black

PMS	Y	R	B	BK	PMS	Y	R	B	BK	PMS	Y	R	B	BK	PMS	Y	R	B	BK
100	30				124	S	40		10	148	40	20			172	90	80		
101	50				125	S	30		10	149	50	30			173	90	90		20
102	70				126	S	40	40		150	80	50			174	S	80		20
103	S	10	10		127	30				151	S	70			175	S	80	50	20
104	S	20	30		128	40				152	S	80		10	176	10	30		
105	S	60	65		129	80	20			153	S	60		10	177	40	60		
106	40				130	S	30			154	S	60		20	178	50	70		
107	60				131	S	30		10	155	15	5			179	S	S		
108	S				132	S	40		20	156	50	30			180	S	S		20
109	S	10			133	S	50	50		157	80	40			181	S	90	50	
110	S	10		10	134	20				158	S	80		10	182	30	50		
111	S	10		30	135	70	30			159	S	70		20	183	30	70		
112	S	10	50		136	S	40			160	S	70	30		184	40	80		
113	50				137	S	50			161	S	70	50	10	185	80	S		
114	80	5			138	S	60			162	40	30			186	70	S		
115	90	10			139	S	50		20	163	60	50			187	80	S		20
116	S	20			140	S	40		50	164	80	60			188	S	S	60	
117	S	40	20		141	50	10			165	S	90			189	30	60		
118	S	40	30		142	60	20			166	S	80			190	30	70		
119	S	45		40	143	80	30			167	S	80		10	191	40	80		
120	50				144	S	60			168	S	70		40	192	70	S		
121	60	5			145	S	60		10	169	40	35			193	60	S		10
122	S	20			146	S	60	30	10	170	50	50			194	S	S		40
123	S	40			147	S	60	60	25	171	60	60			195	S	S	70	

PMS	Y	R	B	BK
196	10	20		
197	20	50		
198	40	70		
199	70	S		
200	80	S		10
201	80	S		30
202	80	S		30
203	S	30		
204	30	70		
205	30	90		
206	60	S		
207	60	S		20
208	80	S	50	
209	S	S	70	
210	10	50		
211	10	70		
212	20	80		
213	40	S		
214	50	S	20	
215	60	S	40	
216	60	S	40	30
217		25		
218		70		
219	15	S		
220	70	S	30	
221	70	S	45	
222	70	S	70	
223	50			
224		70		

PMS	Y	R	B	BK
225		S		
226		S		
227	20	S		15
228	50	S	50	
229	70	S	70	20
230	10	40		
231		80		
232		S		
233		S	10	
234		S	40	
235	60	S	50	
236		60		
237		80		
238		S	5	
239		S	10	
240		S	30	
241		S	40	
242	60	S	60	20
243		50	5	
244		55	10	
245		70	20	
246		S	30	
247		S	35	
248		S	40	
249	60	S	70	
250		20		
251		50	20	
252		80	35	
253		S	40	

PMS	Y	R	B	BK
254		S	50	
255	40	S	70	
256		30	10	
257		50	30	
258	30	S	70	
259		S	70	
260		S	60	20
261	60	S	80	20
262	60	S	80	40
263		20	20	
264		40	40	
265		70	80	
266		80	S	
267		80	S	
268	50	S	S	
269	60	S	S	
270		30	40	
271		50	60	
272		60	80	
273		70	S	40
274		70	S	60
275		70	S	60
276		70	S	70
277			20	
278		20	60	
279		35	80	
280		60	S	20
281		60	S	40
282		60	S	60

PMS	Y	R	B	BK
283		5	40	
284		20	70	
285		40	S	
286		50	S	
287		50	S	10
288		50	S	20
289		60	S	60
290			30	
291		10	70	
292		20	80	
293		50	S	
294		50	S	20
295		50	S	40
296	30	60	S	40
297			50	
298		10	80	
299		20	S	
300		40	S	
301	10	40	S	
302		40	S	30
303	50	50	S	30
304	10		30	
305			40	
306			60	
307		10	S	
308	10	20	S	10
309	50	60	S	20
310	10		50	
311	20		70	

PMS	Y	R	B	BK
312	15		80	
313			S	
314	10		S	
315	20		S	20
316	60	55	S	
317	10		15	
318	30		60	
319	30		70	
320	30		S	
321	40		S	
322	40		S	10
323	70	50	S	
324	30		50	
325	30		70	
326	30		90	
327	50		S	
328	50		S	20
329	50		S	40
330	50		S	60
331	20		20	
332	30		30	
333	40		50	
334	70		S	
335	70		S	20
336	90		S	30
337	20		20	
338	40		70	
339	60		S	
340	80		S	10

PMS	Y	R	B	BK
341	80		S	20
342	80		S	50
343	80		S	60
344	30		30	
345	30		40	
346	50		60	
347	S		S	
348	S		S	30
349	S		S	60
350	S	40	S	60
351	20		20	
352	40		40	
353	50		50	
354	90		80	
355	S		S	
356	S		S	10
357	S	40	S	50
358	50		40	
359	60		50	
360	70		60	
361	S		70	
362	S		S	
363	S		S	10
364	S		70	30
365	25		10	
366	50		30	
367	10		40	
368	S		70	
369	S		70	

PMS	Y	R	B	BK
370	S	10	70	
371	S	50	70	20
372	40		10	
373	50		20	
374	60		30	
375	S		50	
376	S		60	
377	S		50	
378	S	50	70	20
379	65		10	
380	70		20	
381	S		30	
382	S		40	
383	S	10	40	
384	S	20	50	
385	S	50	60	
386	70		10	
387	75		15	
388	80		20	
389	S		30	
390	S		30	5
391	S		40	10
392	S	50	55	
393	50		5	
394	80		10	
395	90		15	
396	S		20	
397	S		30	
398	S	15	30	

PMS	Y	R	B	BK
399	S	15	30	10
400	10			10
401	10			20
402	10			30
403	50	30	40	30
404	60	50	50	10
405	60	50	50	40
406	20	10	10	
407	30	20	20	
408	40	30	40	
409	60	50	50	
410	60	50	50	20
411	S	80	75	25
412	S	80	75	60
413	10			10
414	10			15
415	15			20
416	15			50
417	15		70	
418	15		80	
419	S	70	70	70
420	10			10
421	20	10	20	5
422	30	20	40	
423	35	25	45	
424				60
425				80
426			60	S
427	20	10	20	

103

PMS	Y	R	B	BK
428			5	20
429	20	20	40	
430	40	40	50	20
431			20	60
432			20	80
433			40	S
434	10	20	20	
435	10	20	20	
436	20	30	30	
437	30	40	40	
438	40	60	60	20
439	40	60	60	40
440	50	60	60	60
441	20		10	5
442	20	10	30	
443	30	30	50	
444	40	40	60	10
445	50	50	70	30
446	50	50	70	50
447	60	60	80	50
448	S	70	80	20
449	S	60	70	
450	15	60	70	
451	60	35	35	
452	40	20	30	
453	20			10
454	10			5
455	S	70	80	10
456	S	50	50	

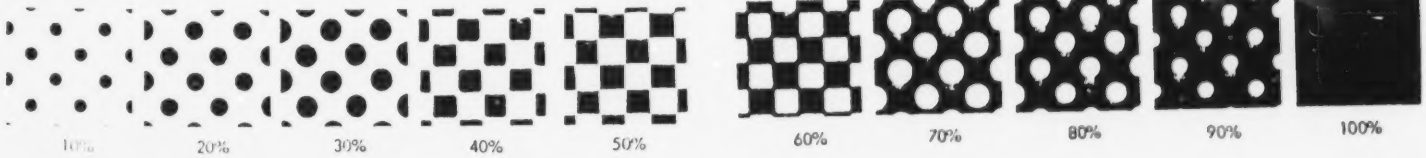
PMS	Y	R	B	BK
457	S	40	50	
458	70	10	20	
459	50	10	10	
460	40	5	5	
461	20			
462	S	50		80
463	S	50		60
464	S	60	40	20
465	60	35	30	
466	50	30	20	
467	40	10	10	
468	30	5	5	
469	S	70	50	30
470	S	80		50
471	S	70	20	20
472	70	50	10	
473	60	40	10	
474	40	30		
475	20	10		
476	S	80	70	30
477	S	90	60	20
478	S	90	60	
479	50	50	40	
480	30	30	20	
481	20	20		10
482	20	10		10
483	S	5	60	30
484	S	S		20
485	S	S		

PMS	Y	R	B	BK
486	50	50		
487	30	30		
488	20	20		
489	15	10		
490	S	90	70	30
491	S	90		50
492	S	S		50
493	30	50	10	
494	20	40		
495	10	30		
496	10	20		
497	S	90	80	30
498	70	80	70	
499	60	70	60	
500	30	50	20	
501	10	40		
502	5	30		
503	5	10		
504	S	S	80	30
505	80	S	80	
506	60	S	70	
507	10	50	5	
508	10	40	5	
509	5	30	5	
510		10		
511	70	S	80	
512	30	S	75	
513		S	65	
514		60	30	

PMS	Y	R	B	BK
515		50	15	
516		40	10	
517		10		
518	50	90	80	30
519	40	80		
520	40	80	70	20
521		50	40	
522		40	25	
523		30	20	
524		10	5	
525	80	S	S	
526	10	5	90	
527		S	S	
528		50	50	
529		40	30	
530		20	10	
531		10	5	
532	40	70	S	50
533	40	70	S	20
534	40	70	S	
535	10	30	50	
536		20	40	10
537	5	5	20	
538	5	5	10	
539		40	S	60
540		50	S	60
541		50	S	50
542		40	S	
543		20	70	

PMS	Y	R	B	BK	PMS	Y	R	B	BK	PMS	Y	R	B	BK	PMS	Y	R	B	BK
544		10	50		564	30		50		584	80		20						
545			50		565	20		30		585	60		20						
546	80	70	S	60	566	20		20		586	40		10						
547	30	40	S	40	567	60		S	60										
548	20	40	S	30	568	60	S	30											
549		10	80	10	569	60		S	10										
550			60	10	570	40		60											
551			40	5	571	30		40											
552	5		20		572	20		30											
553	70	50	S	70	573	20		20											
554	70		S	70	574	S	80	S											
555	60		S	60	575	S	50	S											
556	10	20	60		576	S		90	20										
557	40		50	5	577	70	20	60											
558	20		20		578	50		40											
559	15		15		579	30		20											
560	80	60	S	50	580	20		10											
561	80	60	S		581	S	50	60	10										
562	50	40	80		582	S	40	60											
563	30		50	10	583	S	10	50											

Tint screens by percentages (enlarged)



CREATE ART WITH THREE-COLOR OVERLAYS

Equipment:

Pasteup board
Overlay film
50% screens
Basic pasteup tools

Procedure:	Evaluation 3	2	1	N
1. Create black-and-white base art for a color wheel. Divide a large circle into 12 sections. (Ask the instructor for specifics on circle size and whether sections can be of varying sizes.)	—	—	—	—
2. Set type or neatly letter sections for process colors (yellow, magenta and cyan). Then label the secondary color sections (orange, violet, green).	—	—	—	—
3. Hinge the first overlay from the side closest to the **yellows.** Add register marks. a. Use cut-and-peel film for the solid yellow, yellow-orange, yellow-green, orange and green wedges. b. Use 50% screens on the red-orange and blue-green wedges. c. Label overlay "yellow".	—	—	—	—
4. Registration is very important. On the previous and next several steps, make sure overlays meet the black line drawn on the base art. No white space should show.	—	—	—	—
5. Flip back the first overlay. Hinge the second overlay from the side closest to **magenta.** Add register marks. a. Use cut-and-peel film for the solid magenta, red-orange, red-violet, orange and violet wedges. b. Use 50% screens for the yellow-orange and blue-violet wedges. c. Label overlay "magenta".	—	—	—	—
6. Flip back the second overlay. Hinge the final overlay from the side closest to **cyan.** Add register marks. a. Use cut-and-peel film for the cyan, blue-violet, blue-green, violet and green wedges. b. Use 50% screens for red-violet and yellow-green areas. c. Label overlay "cyan".	—	—	—	—
7. Check for accuracy and cleanliness. Cover entire layout with tissue. Roughly color in wedges with markers. Submit to instructor for evaluation.	—	—	—	—
Average of above evaluations*	—	—	—	—

*This average is the student's final evaluation for competencies G4 and G6.

MARK UP COLOR ON A COMPREHENSIVE

Pasteup board
Overlay film
50% screens
Basic pasteup tools
Handout 1.1: Pantone-to-process conversion approximations

Procedure:		Evaluation 3	2	1	N
1.	After creating thumbnails, select the best two for preparing roughs.	—	—	—	—
2.	Instructor approves one of two roughs for final comprehensive.	—	—	—	—
3.	Make comprehensive, allowing 1-2" margin around the design.	—	—	—	—
4.	Make tissue information overlay that is tape-hinged at the top and cut the same size as the art board.	—	—	—	—
5.	Write spot color and process color alternatives on the overlay.	—	—	—	—
6.	(Optional) Attach PMS swatches to the lower right-hand corner of the comprehensive.	—	—	—	—
Average of above evaluations*		—	—	—	—

*This average is the student's final evaluation for competencies G4 and G7.

MODULE: FUNDAMENTALS OF COMMERCIAL ART

UNIT VI: COLOR SEPARATIONS AND PRINTER SPECS

UNIT TEST

Match the following terms and definitions.

___ 1. Sheet of acetate, tracing paper or similar material placed over a pasteup to hold copy that will appear in another color or for special instructions on the job

___ 2. Indicating that certain areas of a photo or illustration are to be left blank, especially colored lines or backgrounds

___ 3. Negative film used between the negative and printing plate

___ 4. Sheet of preprinted patterns and tones used to add depth or special characteristics to base art

___ 5. An image that is designed to run off the edge of the sheet when printed or trimmed

___ 6. One of four process ink colors; also called process red

a. Bleed
b. Cyan
c. Drop-out
d. Magenta
e. Mechanical
ab. Overlay
ac. Screen tint
ad. Shading film
ae. Surprint

Identify true statements with an "a" and false ones with a "b".

___ 7. Register marks are small, bull's eye-like patterns that can be placed on artwork and overlays to help position film negatives in the stripping process.

___ 8. It is important that the film cut for an overlay be large enough to cover the image area on the base art plus the register marks.

___ 9. Shading films are a type of negative film used in the darkroom.

___ 10. Shading films are used to create halftones from photos and for special effect backgrounds.

___ 11. In keyline art, the platemaker does the finishing work.

___ 12. Mixing Pantone (or flat) colors yields the same results as mixing process colors.

___ 13. Color is indicated on an overlay, rather than on the comprehensive.

Select the option that answers the question or completes the statement.

___ 14. What are the secondary colors in the basic color wheel?

a. Red, yellow and blue
b. Orange, green and violet
c. Red, green and blue
d. Cyan, magenta and yellow

___ 15. Which three colors are used for full-color printing?

a. Red, yellow and blue
b. Orange, green and violet
c. Red, green and blue
d. Cyan, magenta and yellow

___ 16. Which is NOT a printer spec consideration?

a. Size and number of pages
b. Quantity needed
c. Number of colors to be used
d. Cost estimate

___ 17. Which is true of preparing artwork for printer use?

a. Trim marks should be clearly marked with black ink outside the image area.
b. Center and folding marks should be clearly marked with red ink inside the image area.
c. Bleed photos or illustrations should extend just to the edge of the page.
d. Inserts and mailing considerations should be marked in black on the artwork.

ANSWERS TO UNIT TEST

1.	ab	(G4)
2.	c	(G7)
3.	ac	(G6)
4.	ad	(G6)
5.	a	(G7)
6.	d	(G4)
7.	a	(G4, L2)
8.	a	(G4, L2)
9.	b	(G6)
10.	b	(G6)
11.	a	(G4)
12.	b	(G7)
13.	a	(G4)
14.	b	(G4)
15.	d	(G4)
16.	d	(G7)
17.	a	(G7)